THE RAILWAY GAZETTE
A Journal of Management, Engineering and Operation
INCORPORATING
Railway Engineer · TRANSPORT · The Railway News
The Railway Times · Herapath's Railway Journal · RAILWAY RECORD.
RAILWAYS ILLUSTRATED · ESTABLISHED 1835 · Railway Official Gazette

33, TOTHILL STREET, WESTMINSTER, LONDON, S.W.1.

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Annually £4 10s. by post. Single copies, Two shillings.
Registered at the G.P.O. as a newspaper. Entered as second-class matter in U.S.A.

Vol. 99] FRIDAY, NOVEMBER 13, 1953 [No. 20

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Railway Rates and Wages

ONE reason for the relatively satisfactory picture of the economic situation of the country which Mr. R. A. Butler, Chancellor of the Exchequer, was able to give in the House of Commons last week was the extent to which railway freight rates have been kept down in the past few years. Such increases as have occurred have been granted by the Transport Tribunal or by the Minister of Transport after consultation, in accordance with a cumbersome procedure involving a considerable time-lag of increased revenue after the increase in costs which necessitated the rise in charges: any benefit from increased charges has been largely or entirely swallowed up by subsequent rises in railway wage and other costs after granting of the increase. It is now nearly a year since railway freight charges were raised 5 per cent on December 1, 1952. A warning that a further increase in railway wages must mean further rises in railway rates and fares has been given by Mr. W. P. Allen, Chief of Establishment & Staff, British Transport Commission, in his evidence before the Railway Staff National Tribunal, which has been hearing the railway trade unions' application for a 15 per cent increase in wages. An account of the proceedings, which were still in progress as we went to press, is given in another page. Mr. Allen pointed out that the cost of the claims before the Tribunal was £31,000,000 a year, and meeting all the claims of railway staff would mean about £39,000,000 a year on the wages bill. The Commission, he maintained, cannot meet any further wage increases without further increases in charges to meet the additional cost involved. Furthermore, in the five years to the end of 1952, the Commission could not make provision for general or replacement reserves and at that date the accumulated deficit was £31,000,000. On 1953 results to date this deficit is likely to be increased, almost entirely because of the considerable fall in the net traffic receipts of British Railways since the last wage award of the Tribunal in the autumn of last year.

Overseas Investment

BRITISH industry is dissatisfied with the efforts of Government negotiators in securing for it access to markets abroad. This complaint was voiced by Sir Harry Pilkington, President of the Federation of British Industries, at the recent F.B.I. Export Sales Conference in Buxton. Our exports, he said, must enable us to invest overseas, particularly in the dominions and colonies. The Government should always be prepared to take risks in allowing capital investment overseas that seems likely to raise the purchasing power in the overseas territory and so increase the size of the cake of world trade. Selective overseas investment brings to this country as a whole an amazingly rapid return on the outlay—one out of all proportion to the obvious return to the investor. What British industry would like to see, above all, was the restoration of a unilateral trade system. Sir Harry Pilkington called this "a dream beyond hope of immediate realisation," but added that no one was convinced that the Government was enterprising enough in this respect, or saw clearly all the points at issue.

The Transportation Club

THE membership of the Transportation Club embraces representatives of all forms of transport and the associated industries, but since nationalisation of the railways there has been a diminution in the numbers of railway officers attached to the Club. Mr. Alan Lennox-Boyd, the Minister of Transport, speaking as President of the Club at a dinner last week to welcome Mr. K. W. C. Grand as the new Chairman and to thank Major-General Gilbert Szlumper, the outgoing Chairman, for his services, emphasised the advantages which would accrue from a greater proportion of railway officers. The Transportation Club is the only one of its kind in this country. Only good can come, as the Minister said, of a greater interchange of ideas between railway officers and those associated with other branches of transport and of industry. The dinner, which was attended by representatives of a very influential cross-section of the industry (a list of those present was given last week) was marked by the tributes paid not only to Major-General Szlumper for his untiring efforts to further the interests of the Club, but also by the recognition accorded the unremitting work of the Honorary Secretary, Colonel K. R. N. Speir.

U.T.A. Freight Rate Proposals Approved

THE Transport Tribunal for Northern Ireland has approved, with alterations and amendments, proposals submitted by the Ulster Transport Authority for the settlement of maximum freight charges. It has rejected, however, a proposal by the Authority for power to raise rates generally by an additional 10 per cent without reference to the Tribunal, to cover unforeseen or problematical increases in wages or costs. This proposal, if granted, said the Tribunal, would virtually remove the control of charges provided by the 1948 Act. The Tribunal has rightly recognised that although the Act provides that the whole undertaking of the Authority shall be maintained on a solvent basis, this end could be achieved only by levying unreasonable rates and charges. It believes that it must assist the Authority to maintain its system with a view of

becoming solvent at a future date by reorganisation and in improved trading conditions. It has therefore treated the freight section as a separate unit which, as far as possible, should contribute its proper quota to the solvency of the whole. The new charges and conditions come into force on November 30. The Tribunal has been told that the Authority's new fares structure is likely to be ready for presentation by June 1 next.

Overseas Railway Traffics

CANADIAN Pacific Railway gross earnings for September were $39,327,000, compared with $39,073,000 for September, 1952. Working expenses were $39,544,000 and $35,967,000 respectively, so that net earnings for the month were $2,783,000 against $3,106,000 last year. Aggregate gross earnings for the first nine months of the current year were $353,235,000, compared with $339,249,000 for January-September, 1952, while aggregate net earnings were $17,871,000 and $18,805,000 respectively. These figures may be compared with the September traffics of the Canadian National to which editorial reference was made last week, and seem to show the same tendency though to a lesser degree, perhaps because of the larger non-railway element in C.P.R. receipts and expenditure. Gold Coast Railway receipts for August were £270,034, an increase of £14,905 over last year's figure. Aggregate traffics for the five months April-August were £1,630,361, an increase of £194,198 over the corresponding period of 1952. Barsi Light Railway traffics for September were Rs. 219,100, compared with Rs. 267,400 a year ago. The total for the six months April-September amounted to Rs. 2,283,500, against Rs. 2,533,000 in 1952.

Retired Railway Officers' Society Luncheon

IN the absence of Mr. Alan Lennox-Boyd, Minister of Transport, from the autumn luncheon of the Retired Railway Officers' Society held in London last Tuesday, the task of responding to the toast of the guests, proposed by Sir William Stanier, Chairman of the Society, devolved entirely on Sir Michael Barrington-Ward. The Railway Executive had gone, he said, and those who wished to study the work it had done should turn to Mr. John Elliot's Presidential Address to the Institute of Transport. Mr. C. K. Bird gave four qualities—"guts," hard work, loyalty, and integrity—which, in mathematical language, he termed invariants in the changing railway order exemplified by the members of the Society. Sir William Stanier emphasised the dangers inherent in too slavish an adherence to the doctrine of standardisation. He stressed the need for permitting experimental teams to work in the Regions. If this were not encouraged, stagnation instead of progress might well result. This view has all the greater force when it is remembered that this prominent locomotive engineer was assistant manager of Swindon Locomotive Works at the age of 30 under Churchward, whose scientific approach to problems of design eventually revolutionised British locomotice practice.

Seventy-Five Years of Electrical History

TOWARDS the end of 1878 a business known as Crompton & Fawkes in the City of London was importing electric lighting equipment into Great Britain. Dating its origin from that period, the firm of Crompton Parkinson Limited last month commemorated its seventy-fifth anniversary. One of R. E. B. Crompton's major contributions to early electric lighting development was the improvement of dynamos, so that when electricity began to be used for traction, he was well placed to undertake the manufacture of motors. In 1890 Crompton & Co. Ltd. supplied the equipment for the electric tramway on Southend Pier. From 1898 onwards 31 electric locomotives were built for the City & South London Railway, after which the emphasis was on industrial equipment until, after the formation of Crompton Parkinson Limited in 1927, railway activities were resumed as the result of collaboration in the control equipment field with Allen West & Co. Ltd. beginning in 1935. The company supplied diesel-electric traction equipments to the L.M.S.R. in that year, and is at present engaged on shunter equipments for British Railways and the Spanish National Railways. Its interest in the development of cardan shaft drive in electric motor bogies, as used in the new Toronto subway cars, may have increasing influence on railway suburban rolling stock design in the future.

New Main-Line Stock in Mexico

AS part implementation of a rehabilitation programme to improve main-line services, which includes relaying the Mexico-Nuevo-Laredo main-line with 112-lb. rails, and the placing in service of new rolling stock, orders for which included restaurant and Pullman cars, the National Railways of Mexico have taken delivery of 50 first-class open type carriages, which are being placed in service between Mexico City and Laredo, and Mexico City and Guadalajara. A feature of the rolling stock which is described and illustrated elsewhere in this issue is the length of the bodies and the large accommodation, which provides seating for 80 passengers. The saloon portion is supplied with conditioned air, arranged by means of air ducts in the parcel racks. Alfol insulation is also provided, and the conditioned air is controlled by 16 Aerodyne fixed ventilators, and can be regulated by movable vents of the Vega type. Basically the underframes, bogies, and coupler equipment conform to the specification of the Association of American Railroads.

Radio Communication on Battery Vehicles

INCREASED mobility made possible by the use of battery electric vehicles brings its own problems in the matter of keeping in touch with drivers so that they can be directed to the places where their services are needed. Radio has been used for this purpose in the U.S.A., where its effectiveness so impressed the Anglo-American Council on Productivity that recommendations for its adoption in Great Britain were made in the council's report on production control. Large railway works have the same problems as other industrial plants, and in railway operations the sphere for use of battery vehicles extends to goods depots, large stations, and even, within the past year, to collection and delivery services normally operated by mechanical horses. Demonstrations of V.H.F. radio installed on Conveyancer fork-lift trucks have been given recently by the G.E.C., whose equipment was operated off the vehicle batteries so that installation requirements were of the simplest description. One of the obstacles to the use of mobile radio is being progressively surmounted by the introduction of heavy-duty valves covering the normal range of types used in transmitter-receivers. In this direction, also, the germanium triode, or transistor, may in due course make its contribution, particularly towards facilitating the design of even more compact equipments than are available already.

Encouraging Amateur Photographers

SOME railways in the U.S.A. have arrived at the conclusion that the photographs and cinema films taken by holidaymakers of the attractions of the various resorts they serve can be of considerable propaganda value. Research has shown that every year some 200,000 million amateur photographs are taken in the U.S.A., and that at least 35 per cent of these depict subjects that appeal most to the traveller; also that 80 per cent of all American holidaymakers use cameras, and that 93 per cent of the photographers show their work to their friends. Roughly half the vacationists questioned had seen amateur snapshots of the resorts that they ultimately visited, and 42 per cent of this group stated that they had been influenced in their choice in this way. Many U.S.A. railways now encourage amateur photographers, as by posters calling attention to photographic possibilities; by leaflets handed to passengers at the beginning of journeys over spectacular mountain routes on the best use of various films, filters, and

exposure guides, especially through the glass of vista-dome coaches; by use of the public address system in trains to announce the near approach of suitable subjects; and by special train trips for camera enthusiasts through photogenic scenery.

Improving British Canals

THE Docks & Inland Waterways Board of Management is experimenting to find if, by improved design or new methods of construction, speeds on the inland waterways of the British Transport Commission can be increased without damaging the banks and greater payload capacity achieved. In his address to the Merseyside Section of the Institute of Transport, Sir Reginald Hill, Chairman of the Board of Management, said that most of the traffic using the canals is conveyed by independent carriers or traders carrying goods in their own craft. Some 98 per cent of this traffic is carried on about 1,200 miles of waterway, leaving the remaining 800 miles carrying only 2 per cent of the total yet costing £300-£400 a mile to maintain. Sir Reginald Hill envisages abandonment of some hundreds of miles of such waterway where there are no commercial user or prospects, or maintenance cost is abnormally high because of special conditions. These waterways could be preserved for pleasure use or for drainage or water supply. He advocates concentration on traffics which it is physically, geographically and economically best suited to convey; increasingly intensive use of craft and equipment; and economy in administration.

Yellow Distant Light in Italy

THE semaphores of the Italian railways bear a strong resemblance to those used in Great Britain, much more so than those of any other Continental country. The yellow distant signal light was known to have been in use in Italy for a very long time although no exact information about it appeared to be available. A reference in an Indian document published in 1901 caused us to make inquiries, and by the kindness of Signor F. Tolotti, of the Italian State Railways, we were able to learn that the yellow light for distant signals could be traced back definitely on that system to 1889, though believed to have been introduced a few years earlier. It is strange that such an old established and successful use of yellow for "caution" should not have become known generally and have affected practice elsewhere. Yellow lights were used very early by some of the old French companies, but as a stop indication for siding lines, violet replacing yellow when that was adopted for warning aspects. The earliest use of yellow distant lights in British territory seems to have been on the Central South African Railways in 1902.

Transport Engine History

EXACTLY 70 years ago there was completed in Cannstatt, near Stuttgart, the world's first high-speed internal-combustion engine, and its builders, Gottlieb Daimler and Wilhelm Maybach, intended it specifically as their experimental unit for future applications to road transport vehicles for private passenger use. Daimler foresaw and sponsored this development with all his energy and money during the remaining seventeen years of his life; year after year Wilhelm Maybach provided the engineering solutions, until in the Mercedes car of 1900 were incorporated in one vehicle all of his inventions, and the basic construction of the modern automobile appeared. Daimler and Maybach earlier had been together at the Deutz Gasmotorenfabrik; indeed, Daimler left in order to set up his own business when the Deutz directors would not finance high-speed engines. Maybach, after his retiral from the Daimler company in 1907, set up with Count Zeppelin an engine works which later became Maybach Motorenbau. Today the Deutz, Daimler and Maybach organisations are all leaders in the construction of high-speed lightweight railway oil engines in the type and tradition of Wilhelm Maybach, and the first two cover the road transport field also.

Indian Locomotive Imports and Production

APART from Krauss Maffei, whose order for 150 "YP" locomotives we announced last week, the names of the German, Austrian and Japanese manufacturers which have received orders to build 400 locomotives for India under the augmented 1954-55 foreign procurement programme have still to be divulged officially. From figures which have reached us, however, we understand that Fried Krupp A.G. and Henschel & Sohn G.m.b.H. are sharing a contract for 100 "WG" class and Wiener Lokomotivfabrik A.G., Austria, is credited with 60 more; as we have stated, Japan is to build another 75 of this class.

It is known, moreover, that besides the favourable prices which they quoted, the prompt delivery they could offer was instrumental in gaining them the contracts. The date when deliveries are to be completed, March 31, 1956, is that when the first Five-Year Plan of the Indian Government ends. The estimated total cost of the orders is over £11,000,000, and details of the individual prices are awaited with interest.

The fact that Continental manufacturers have been able to undercut British tenders—in some quarters it is believed by approximately 10 per cent—has caused considerable surprise. It is known that generally costs on the Continent are higher—German locomotive building true costs are believed to be some 10 per cent above those of United Kingdom manufacturers.

It must be emphasised that India has yet to place orders for 350 more locomotives, to complete the total of 750 to be acquired during the remaining two years of the plan which was announced by Mr. P. C. Bhattacharyya, the Financial Commissioner of the Railway Board in New Delhi. Many of them it hopes to obtain under the Colombo Plan, which should offer another opportunity for British manufacturers to participate. The Colombo Plan Consultative Committee, or, to give it its full title, the Consultative Committee for Co-operative Economic Development in South & South East Asia, was set up after a meeting of Commonwealth Foreign Ministers at Colombo in January, 1950, to promote development on an international co-operative basis of the countries of South and South East Asia.

Since the end of 1950 the various loans made available under the Colombo Plan for economic development by countries outside the area have reached a total of some £360,000,000. Assistance has come from the United Kingdom, Australia, Canada, New Zealand, the United States, and the International Bank for Reconstruction & Development.

Another point which should not be overlooked is that Britain has for some time been supplying components, mainly steel castings, for the locomotives being erected at the Indian Government locomotive works at Chittaranjan, which were set up under the Colombo Plan in 1950, with the technical assistance of the Locomotive Manufacturers' Association of London. Fifty-two complete locomotives are scheduled to be turned out of Chittaranjan by the end of this year and the output is understood to be well up to that schedule.

In addition, the Tata Locomotive & Engineering Co. Ltd., in which the Indian Government is also interested, is likewise engaged on large-scale manufacture of locomotives for the Indian railways at the Telco works at Tatanagar; this works also imports its castings, in this case from Krauss Maffei. The ultimate target of Tata is 50 locomotives and 50 spare boilers a year. This year it is 30 "YG" and "YP" locomotives and 31 "XB" and "XC" boilers; 18 locomotives had been completed by the end of October and eight more are expected to be finished by the end of December.

By placing orders abroad on a large scale the Indian Government aims as quickly as possible to overtake arrears of locomotives and rolling stock and at the same time meet the extra demands made by the 200 per cent increase in passenger traffic and the 25 per cent increase in goods traffic recorded since the war. On April 1, 1951, there were stated to be 32 per cent of the locomotives over-age,

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but by March 31, 1956, the figure may have risen to as much as about 45 per cent. This trend has made it essential for the Railway Board to revise the original plans for obtaining new locomotives and rolling stock and launch a more ambitious programme. Domestic output is expected to yield 240 complete locomotives a year besides boilers and other spare parts, when full production is reached, hence the need for considerable imports during the Plan period if all requirements are to be adequately satisfied and the number of over-age locomotives kept to a more reasonable level.

The need for promptness in the delivery of exports if Britain is to maintain its position in the world markets has been stressed in more than one speech in Parliament recently, at least one having alluded to the Indian orders. One speaker put forward the suggestion that our longer delivery dates were the result of our full order books, a healthy condition, and added that in time, no doubt, German delivery periods would lengthen. The suggestion was made also that our overseas competitors were subjected to less governmental interference, however well meant such interference might be here. Another factor which enters into the question of competitive price is the extent to which foreign locomotive and other manufacturers are subsidised by their Governments, though this may have had no bearing on the prices which the successful tenderers were able to quote. More to the point is the fact that the German manufacturers at least can offer firm prices in the knowledge that costs of materials will remain static.

Proposed Rhodesian Outlet to the Atlantic

THE rapid development of the two Rhodesias emphasises the need for improved communications not only with the Indian Ocean seaboard but also with the Atlantic. A railway to the latter would make possible quicker and probably cheaper transport to and from the European and American Continents, and Great Britain in particular. Strategically also, it would be of vital wartime importance in the almost-certain event of the Suez Canal being closed and the east coast of Africa being blockaded by submarines. Attention is therefore being increasingly concentrated on the problem of constructing such a railway, from the westernmost point of the Rhodesias, near the Victoria Falls, to a seaport in or near South West Africa.

The existence of about 400 miles of railway from the established port of Walvis Bay through Windhoek Junction to Gobabis, running in the general direction of a connection from Rhodesia, causes this route to be the *prima facie* favourite at the moment. For it would entail the construction of only about 550 miles of new line across the Kalahari Desert in Bechuanaland and South West African territories. Moreover, the port of Walvis Bay, if not all that could be desired, could probably be improved and expanded more cheaply than the provision of an entirely new port elsewhere.

Objections to this route are, we understand, (1) that its capacity will be limited by a summit of nearly 6,300-ft. altitude, approached by 1 in 50 gradients, (2) that the line will run through unproductive desert, and (3) that its terminal port is about 500 miles farther from Europe than is Tiger Bay, the most suitable terminus for the only other feasible line from Rhodesia to the Atlantic. A port on the Kunene estuary is not considered practicable.

This Tiger Bay route runs almost due westwards from Victoria Falls, but it would entail over 1,000 miles of new construction, and Tiger Bay is in Portuguese West African territory about 50 miles north of the South West African border at the mouth of the Kunene River. On the other hand, it has many convincing operational advantages. As the Kunene River cuts through the coastal range of mountains, it provides a valley route for a railway, with the result that a summit level of only about 3,800 ft. has to be surmounted on the watershed between the Kunene and Okavango Rivers, some 420 miles east from Tiger Bay.

Consequently, there is in the 600 miles eastwards from this summit little rise and fall, the altitude of the Victoria Falls area being very similar. In the 3,800-ft. rise from the west coast, a ruling gradient of about 1 in 200 compensated for curvature is thought to be possible.

Moreover, Tiger Bay is an excellent natural harbour lending itself to development to a much greater extent than Walvis Bay. Also, unlike the desert route to the latter port, the Tiger Bay line has prospects of some intermediate traffic from the much better country traversed, with water available throughout. There are considerable prospects of irrigation from the rivers in the vicinity of this line, if it is built to make this development worth while. Once built, therefore, this railway would undoubtedly appear to have much greater possibilities and capacity than its rival, if the above information is correct.

In fact, the Tiger Bay route would seem to be the best long-term solution of the problem, but it has the one great disadvantage in that it would probably entail the construction of a 500-mile longer line and an entirely new port, as compared with the Walvis Bay route. There is also the political consideration of Tiger Bay being in Portuguese colonial territory.

There would be little difference in the overall lengths of the two routes, but the Tiger Bay line should be decidedly cheaper to operate, if the expected coal, copper and other traffic is considerable. However, comparable reports based on early preliminary surveys of both routes seem to be called for.

Antofagasta (Chili) & Bolivia Railway

THE statement by the Chairman of the Antofagasta (Chili) & Bolivia Railway Co. Ltd., Mr. H. C. Drayton, accompanying the report and accounts for the year ended December 31, 1952, shows that although there was a considerable decrease in total receipts, there was a corresponding drop in total working expenditure. The net operating receipts for 1952, after deducting losses arising from the operation of the lines of the Bolivia Railway Company and of the Aguas Blancas Railway Company and currency exchange differences loss of £46,006 amounted to £484,334.

After adding other income and the balance of £488,551 brought forward from 1951, deducting debenture interest and the provisions detailed in the net revenue account, and paying 10 per cent on account of arrears of dividend on the 5 per cent cumulative preference stock, the balance to the credit of net revenue account at December 31, 1952, was £447,594, which it is proposed to carry forward. Taking into account the dividend to be paid on October 14, the arrears on the 5 per cent cumulative preference stock will have been paid up to December 31, 1945.

The following are some of the principal results:—

	1951	1952
Passenger journeys	728,074	1,077,517
Goods tonnage	1,380,876	1,415,509
	£	£
Passenger receipts	404,540	388,559
Baggage and parcels receipts	105,810	90,451
Goods and livestock receipts	5,741,645	4,180,148
Total receipts	6,848,492	4,949,870
Total working expenditure	5,194,891	3,621,225

Public goods traffic increased by over 2 per cent and the number of passengers carried rose by 48 per cent, constituting a record; this increase was mainly in second-class journeys arising from a special workmen's service. The tonnage of copper transported from the Chuquicamata Mine during 1952 was 159,775 tons, compared with 162,877 tons in 1951, the decline being caused by a strike at the mine in April, 1952.

There was in addition an increase in low-grade ores and tin slag originating in Bolivia, from 72,355 to 85,000 tons. The tonnage of articles for the mining industry declined from 132,634 to 120,832 because of a falling-off in shipments for Bolivia. On the other hand, petroleum and gasoline showed increases, due principally to heavier consignments to Bolivia.

The operation of the Bolivia Railway Company's lines,

after providing for the rental, resulted in a loss of £564,434 compared with £154,709 in 1951. After taking into account interest of £202,120 received in respect of the Company's holding of series " B " bonds of the Bolivia Railway Company, the net loss is £362,314.

Under agreements with the Chilean and Bolivian Governments, six Beyer-Garratt type locomotives have been in service in Bolivia for some time past and there are on order for delivery next year six 4-8-2 type locomotives for Bolivia and ten for Chile and three first class saloon coaches for Bolivia. In addition various machines are on order for the workshops in Mejillones and Uyuni.

The cost of living in Chile and Bolivia continued to increase during 1952, and salaries and wages, as also the cost of the social services, showed heavy increases. Further increases were granted to employees and workmen from September 1, for which the Chilean Government authorised a 23 per cent increase in tariffs from November 5. The company had therefore to apply to the Chilean Government for another tariffs increase, 11 per cent, which was granted with effect from April 24, 1953. In Bolivia, a petition for increased pay and other benefits was presented by the Railway Federation in July, 1952, and as it was found impossible to reach a settlement satisfactory to both parties, the dispute was referred to arbitration in accordance with the Bolivian Labour Code. The arbitration award, issued in September, imposed considerable financial burdens on the company, but it also recommended a compensatory increase in tariffs, which was agreed at 18 per cent on all rates and came into force on September 19, 1952.

U.S.A. Railway Activities

(By a Correspondent)

SIR WALTER SCOTT said in his diary that, if he had a knack for anything, it was for selecting the striking and interesting points out of dull details. Encouraged by the great man's example, we hope to extract some instructive news about U.S.A. railway activities from a bundle of statistical material with a dry-as-dust look. On the top of the pile is the July statement of railway revenue and expenses. Four solid pages of figures prove that the financial recovery of the U.S.A. railways during the first half of 1953 was intensified in July, when freight revenue was 20 per cent above July, 1952. For the seven months ended July, freight revenue was up 7·8 per cent, while passenger revenue was down 7·4 per cent. Net railway operating income rose by 27·7 per cent in July to $643,257,700, bringing the rate of return on property investment for the 12 months ended July to 4·6 per cent, against 3·9 per cent at the same date in 1952. Net income (after charges) was estimated at $490,000,000, an increase of 40 per cent on last year.

Some pessimistic forecasters thought that freight traffic would decrease in the second half of the year. Our next document—the September bulletin of the Car Service Division, Association of American Railroads—reports that for the 37 weeks to September 12 the number of wagon loadings was 4·3 per cent above 1952, though 4·2 per cent below 1951. Better still, the loadings of high-rated manufactured goods were 6·2 per cent over 1952 and only 1·1 per cent under 1951, a cheering contrast to the monotonous decline in merchandise forwardings on British Railways. For the 36 weeks to September 5 the number of wagons loaded with perishables on the U.S.A. lines was 960,620, an increase of 2 per cent on 1952. To cope with this valuable business, the railways own or control 100,550 refrigerator wagons and in addition 24,510 of these special wagons are owned privately. The distribution of this stock of " reefers " has to be adjusted frequently to meet seasonal requirements in different regions of the States. For example, the movement of peaches from Georgia and the Carolinas ended in August, as did the carriage of watermelons from these States and Florida. About the same time large quantities of cantaloups, melons, oranges, peaches, pears and grapes were being despatched from California. September was the harvest time for late potato crops in Maine and the North Central and Rocky Mountains States. Insulated and refrigerator wagons are also in constant demand for the conveyance of frozen food; during the first quarter of this year, 7,490 wagonloads were handled, an increase of nearly 20 per cent on 1952. These are just a few of the factors which complicate the supply of " reefers " so much that the Car Service Division discusses the position in detail month by month. Here we know little about the user of British Railways stock of insulated and refrigerator wagons. The contrast emphasises the difference between the quickly changing American economy and our rather stolid set-up, as well as the excellence of the A.A.R. publicity arrangements.

While the U.S.A. railways can be happy about the development of freight traffic this year, they must be worried by the downward trend of passenger takings in the first seven months. All the eight Regions, into which the railways are divided, lost passenger revenue in spite of the close attention paid to this branch of business recently and large expenditures on new equipment.

In the Central Western Region, the hunting ground of long-distance " streamliners," passenger takings fell by 11·6 per cent. The Burlington, which was the pioneer in adopting diesel traction for main-line running, increased passenger receipts by 2·5 per cent, but both the Santa Fe and the Southern Pacific were down 15·3 per cent and the Union Pacific nearly 9 per cent. All four companies advertise passenger services extensively, but the freight trains keep them going. The Southern Pacific freight revenue was 13 times its passenger receipts and the Union Pacific addition of $23,743,000 to freight revenue was 10 per cent greater than its total passenger receipts. The Eastern railways kept a tighter hold on passenger travel, though the Pennsylvania's takings were less by $8,810,900, or 9·4 per cent.

These losses of passenger revenue are bound to inflate the deficit which constantly arises from passenger train operations. As a set-off, many railways report substantial savings through the changeover from steam motive power —and occasionally from electric locomotives—to the diesel-electric. The Baltimore & Ohio, for instance, recenty announced that it had 759 diesel units in service and was effecting an annual economy of $45,000,000 on its expenditure of over $100,000,000. At September 1 the U.S.A. class 1 railways owned 15,926 complete diesel locomotives as operated, 12,869 steam locomotives and 623 electric machines. Only 1·1 per cent of the diesel stock was under repair, compared with 10·3 per cent of the steam engines and 4·8 per cent of the electrics. The upshot was that 15,751 diesels were ready for traffic, 56·5 per cent of all the locomotives available. During the 12 months to August 31, the greater efficiency of the diesel-electric led to a reduction of 2,640 locomotives, or 8·2 per cent, in the total locomotive stock. As 395 diesel units and 4 steam locomotives were on order on September 1, it is certain that many more steam engines will be withdrawn before long. Since the war the upsurge of the diesel has reshaped railway operating in the States. It has been fascinating to watch the A.A.R. monthly reports of the spread of this reliable form of motive power.

The last item in our bundle is a new edition of the Freight Commodity Statistics Classification, which is used in compiling returns to the Interstate Commerce Commission of the wagons and tons originated by 262 classes of commodities, together with the revenue accruing from each class. A book of over 200 pages is needed to list all the articles passing by rail and assign each one to its appropriate class. The outcome of this preparatory work is an annual statement summarising more detailed commodity statistics than have been published at any time for our railways. Before the war the Ministry of Transport returns gave the rail tonnage and receipts for some 20 principal commodities. A similar statement for British Railways would be more informative than the brief notes on a few traffics contained in the annual reports of the British Transport Commission.

XUM

LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of correspondents)

Branch Line Closing

October 30

SIR,—In his letter published in your issue of October 30, Mr. E. E. Smith appears to be unaware of the pictorial map poster of Wales produced by this department in collaboration with the Public Relations & Publicity Department of the Western Region and the Welsh Tourist & Holidays Board.

When this was being prepared particular care was taken to ensure that the scenic narrow-gauge railways of Wales were not overlooked, and the Vale of Rheidol Line, the Snowdon Mountain Railway, and the Talyllyn Railway are all specially shown.

Yours faithfully,

GEORGE DOW
Public Relations & Publicity Officer

British Transport Commission,
London Midland Region,
Euston House, N.W.1

November 2

SIR,—Referring to Mr. E. E. Smith's letter published in your issue of October 30, I am of course not aware of the source of your correspondent's information but can assure him that no decision has been reached as to the future of the Vale of Rheidol Line.

On the subject of posters, Mr. Smith is apparently unaware of the poster of Devil's Bridge, which was produced by this Region and widely displayed at stations this year, with the object of stimulating interest in this particular line.

Your obedient servant,

C. J. RIDER
Public Relations & Publicity Officer

British Railways, Western Region,
14, Bishop's Bridge Road, Paddington, W.2.

[Both posters referred to are reproduced on page 558.—ED., *R.G.*]

British Railways Standardisation

November 6

SIR,—Your excellent report on the House of Commons debate on transport, in your October 30 issue, prompts me to suggest that a small fraction of that £16,000,000 a year saved through standardisation is false economy. I refer to various items of equipment supplied to stations, which, as at least my ex-L.N.E.R. colleagues will agree, are being standardised at a deplorably low level.

Our letter paper, for example, tweaks my conscience every time I use it for writing to the public, generally in reply to a communication received on a magnificent example of the printer's art. Cheap paper for internal correspondence is understandable, but that for sending to our customers ought to be worthy of its purpose. The B.R. totem, supported by Regional sub-headings and printed in Regional colour, should be standardised throughout, and not reserved for head office use.

New notices, as they are issued, are coming in open frames, with a varnished finish that fails to prevent pencilling of rude remarks; the same applies to the Ordnance maps now being exhibited at L.M.R. stations. The initial cost of a glazed frame, as used by the old L.N.E.R., would be offset by the saving in renewals, while cleanliness and tidiness would be preserved indefinitely.

It is hard to make much of buildings as old as most stations, but the interiors of some of our offices are a disgrace. Small and gloomy, often with uncovered floors and antiquated furniture of the poorest quality, what places in which to interview the representatives of local firms when they call! And, to be fair, what a state some stationmasters keep them in.

One Region continues to install in office and waiting room alike, modern slow-combustion stoves that need much old-fashioned blacklead to keep them presentable. Vitreous enamel, it seems, comes under that heading beloved of the Stores Department: "Not for station use."

These examples show that stations are not credited with their proper share of importance. They are the shops of British Railways, where most of the sales are effected. Pretty gardens and well kept platforms and yards make a pleasing window display, but they need more behind them if the railways are to maintain their place in modern business organisation.

Yours faithfully,

PETER COLLINS
Stationmaster

Luffenham, Rutland

Time Zones

November 5

SIR,—I refer to the paragraph "Through Six Time Zones" (Scrap Heap, October 30). The Railways of the U.S.S.R. in fact pass through eight time zones.

Commencing in the Western (Moscow) Zone, which at present is G.M.T. plus three hours, the system traverses successive zones, each one hour in advance of the previous one, until the Eastern Zone, in which Vladivostok is situated, is reached; the clocks there are at G.M.T. plus ten hours.

The source of this information is the map provided with the official Russian timetable.

Yours faithfully,

J. MUIRHEAD JOHNSTON

11, Kings Way, Dunstable

Through Services from Channel Ports

November 6

SIR,—Postwar restoration of Continental railway services has reached the stage where a through service is inevitable from French, Belgian, and Dutch ports to almost all principal destinations in Europe.

In this country only one through train makes its halting progress (Sundays excepted) from Harwich to Liverpool and back. The businessman has no through service from Birmingham to Brussels, or Cardiff to Cologne; nor is the large Irish transit traffic catered for at all. The Dutch cater for Anglo-German transit traffic and the French for traffic in transit between Britain and almost anywhere.

There are many cross-country services in Britain, but if they touch a port they avoid the harbour stations and do not connect with the steamers. Typical of this is the Birkenhead-Folkestone-Dover-Deal train, which just misses the afternoon Folkestone-Calais and Dover-Ostend sailings.

Edinburgh has no through service for Festival patrons. The Glasgow-Edinburgh-Colchester through train is slow and arrives at Manningtree too late to connect with the Harwich-Hook day boat, and the Harwich-Liverpool train in connection with the night boat passes Retford, so making sure that no connection with the East Coast route to Scotland is possible.

Yours faithfully,

G. H. HAFTER

107, Mortlake Road, Kew

[The number of travellers between the Continent and places beyond London who do not wish to break their journeys in London does not normally justify through services. The through trains and carriages from and to French, Belgian, and Dutch packet ports serve important places en route, and except perhaps at peak holiday periods do not exist exclusively for traffic with the U.K. There are good connections in London between the Harwich-Hook day and night services and night and day services respectively between London and chief destinations in Britain.—ED., *R.G.*]

THE SCRAP HEAP

Classless

The first, second and third classes on the railways in Communist China are reported to have been replaced by "soft" and "ordinary" passenger accommodation, as on the U.S.S.R. railways.

Wedding Train

A special train hauled by "Lord Nelson" class locomotive No. 30852 *Sir Walter Raleigh*, conveyed more than 150 guests from Waterloo to Beaulieu Road to the wedding of Lord Garnock at Beaulieu, Hampshire. The locomotive carried a special headboard made of oak and bearing the arms of Lindsay and Montagu, a present from Lord Garnock's estate carpenter.

"Terrific" Kingsbridge

In his "Nineteenth Century Architecture in Britain" (Batsford) Mr. Reginald Turnor praises the Dublin termini. Of Kingsbridge, he says "it is certainly terrific; it could, indeed, be a very exclusive club, or perhaps even an Embassy; and yet I do not suppose that travellers beginning or ending a journey there regret its Corinthian splendour, its engaged columns and predimented windows, its balustrade and rusticated podium."

Sancton Wood, the architect of Kingsbridge, also designed Blackburn, Ipswich and Cambridge stations.

New York Central Motive Power

Nearly a century-and-a-quarter of motive power development is shown in the illustration below depicting five locomotives covering the period 1831-1953 in the New York Central roundhouse at Montrose, N.Y., before exhibition at Grand Central Terminal.

From left to right are: 4,500-h.p. main-line passenger diesel-electric, 1953; 1,600-h.p. diesel main-line freight and shunting, 1953; 4-6-4- type ("Hudson") main-line passenger, 1927; 4-4-0 locomotive No. 999, built in 1893, which is stated to have run, on May 10 of that year, one mile at 112·5 m.p.h.; and the *De Witt Clinton*, 1831, the first steam-powered passenger locomotive in New York State.

Constant Collar Work

When Eric Munsterhjelm, author of "The Wind and the Caribou" (Allen & Unwin), decided to become a trapper he caught the "Muskeg Flier" which makes a weekly trip from Edmonton to the banks of the Clearwater River. An old-timer told the greenhorn he would never survive the train journey. He said: "The 'Muskeg Flier' has a peculiarity which is perhaps a world's record. It is the only train in the world that always, and in both directions, is travelling uphill. You see, the track is laid mostly on endless swamps and muskegs that sink when the train passes: so the locomotive is forever desperately climbing out of the mire." —*From "John O'London's Weekly."*

Natural Gas

The Gas Council's projected search for natural gas might well yield something at Heathfield, in Sussex. It is just over 50 years since a "sensational discovery of natural gas" was made there, when a workman digging a well-shaft found the shaft aflame when he threw a match down it. For some years thereafter the L.B.S.C.R. station, where the well was being sunk, and several houses nearby were lit by the methane, or natural gas, that was revealed by the workman's match.

Heathfield is also the place where an old lady comes to the fair every April 14 and releases the first cuckoo of the year from her basket—or so it is said. The railway to Eastbourne via Heathfield is called the "Cuckoo Line" from this legend. But the presence of methane there is far from legendary.—*From "The Manchester Guardian."*

Advice Unlimited

My mother would have told anybody how to do anything. . . . She would cheerfully have told an engine driver how to drive his engine, and he would have taken it quite naturally, and have answered: "Yes, ma'am. Very good, ma'am. Quite right, ma'am," and then would have gone on driving his engine exactly as before, with hardly even an inward grin at the vagaries of the upper classes; while my mother would certainly have thought his driving much improved.—*From "Period Piece," by Gwen Raverat, published by Faber & Faber Limited.*

Van Overboard

Two railway brake vans, urgently needed for East African Railways & Harbours, are reported to have been washed overboard in a storm from the ship conveying them to East Africa.

Dun Laoghaire Expresses

A correspondent to *The Irish Times*, on Dublin suburban service some 50 years ago writes: "The 5.15 train to Greystone made its first stop at Dun Laoghaire at 5.24—nine minutes. It always left Westland Row on the dot, and was followed by the 'slow' at 5.20. The Tramways Company were summoned now and then for exceeding 20 m.p.h. with the "express trams." The test point was Merrion Gates, where Dublin & South Eastern Railway agents checked tram speeds with stop watches and reported the trams for excessive speeds. . . ."

In Loco Parentis

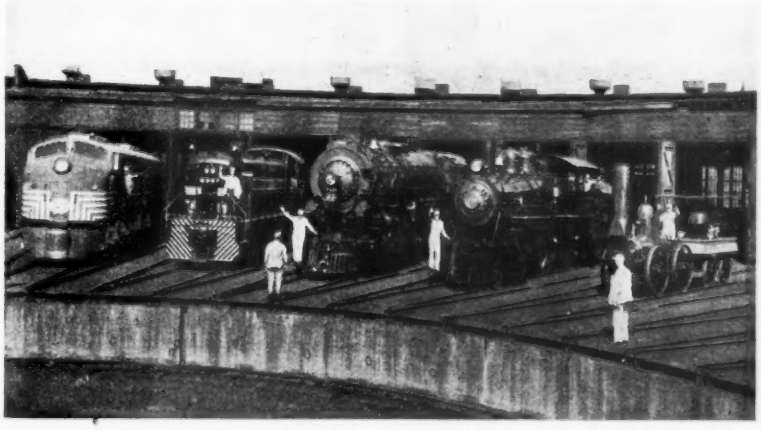
(*Dedicated to the lost property office concerned.*)

The "Telegraph," the other day,
Published a wail from Whitley Bay,
From some poor chap, who said that he
Had been compelled to pay a fee
Of two and-tuppence to get back
A school book left upon the rack
By the apparent lack of care
Shown by his hopeful son and heir.
Granted the prices *are* progressive,
He reckoned two-and-two excessive.

The gentleman from Whitley Bay
Went on more bitterly to say
That, when his daughter lost her shoe,
The charge went up from two-and-two
To two-and three, which made him sore,
And, much incensed, he roundly swore—
As people in a paddy do—
That they could keep the blinkin' shoe!
Which militant exasperation
Has left an awkward situation.

Alas, what will the harvest be
Of Pa's perverse asperity?
Now neither child is very pleased,
In fact, they both seem rather cheesed;
For, while the disillusioned boy,
Text book returned, displays no joy,
But vows it won't come back again
Next time he "leaves" it in the train,
Presumably his half-shod sister
Limps round with a perpetual blister!

A. B.



A century-and-a-quarter of motive power, 1831-1953, at Montrose shed, New York Central System

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Woltemade Stations Change Names

On August 6, Woltemade IA was renamed Mutual by the Minister of Transport, Mr. P. O. Sauer, at a ceremony attended by the staff of an insurance company whose headquarters will be established near this station.

Mr. Sauer, who was introduced by the General Manager, Mr. D. H. C. du Plessis, recalled that his father had, many years before, renamed the stations from Cemetery Nos. 1, 2, etc., to Woltemade and he felt it appropriate that he, too, should take part in a renaming ceremony of one of the former "cemetery" stations.

There will in future be only one station named Woltemade. No. 2 will be known as Reyger and No. 3 as Thornton.

Voltage Changeover in Cape

Work on the proposed conversion from 1,500 volts to 3,000 volts on the line to Simonstown will begin shortly. The 1,500-volt substations at Milnerton, False Bay, Dieprivier and Glencairn will be replaced and new 3,000-volt stations are to be erected at Soutrivier and False Bay. A line from Maitland to Observatory is to be built at a cost of £89,300.

INDIA

Telecommunication Improvements

When the erection of telephone lines over 121 miles over the former Nizam's State Railway between Wadi and Secunderabad is completed shortly, all the Divisional Headquarters will be interconnected and with the Headquarters at Bombay over the Central Railway private administrative trunk network. As an auxiliary channel of communication, a two-way radio telephone system is also provided between Bombay, Secunderabad and Jhansi, and the extension of this system to other Divisional Headquarters is under consideration. Increasing use of teleprinters and wireless telegraphy is being made.

Kalyan Power House

The Central Railway extension to the Kalyan Power House, consisting of two 12,000-kW. turbo-alternator sets and three 135,000 lb./hr. steam boilers, was completed during the year. The total installed capacity is now 64,000 kW. and the firm generating capacity is 54,000 kW. The installation of three 18,000-kW. sets in an extension to the power house will be completed by the Bombay Government during this year. The entire plant will be operated and maintained by the railway.

WESTERN AUSTRALIA

Track Relaying

A beginning has been made on a programme of track relaying in which 100 miles are scheduled to be relaid during the current year, and 100 to 150 miles more a year in subsequent years, until the permanent way is restored to a satisfactory condition.

The programme for 1953-54 covers eleven miles of jointed track 60 lb. B.S. rail in the Northern District between Narngulu and Walkaway, replacing 46½ lb. track originally laid in 1887, and 89 miles of 80 lb. B.S. rail on the Eastern and South Western main lines, replacing 60 lb. material laid in 1893 and 1894.

The 80 lb. track is being welded into 240-ft. lengths, a rail welding plant, with two flash-butt welding machines and complete ancillary equipment having been installed at Midland Junction Workshops for this purpose. Rails are transported from the welding plant on flat top wagons, in two tiers, with side unloading facilities.

Reballasting will be carried out at the same time, gravel ballast being used on the Narngulu-Walkaway section and broken stone ballast on the other sections. Replacement of sleepers where necessary will also be done.

UNITED STATES

Family Fares

All the principal railways in the Western States, including the Santa Fe, Chicago & North Western, Union Pacific, Rock Island, Burlington, Milwaukee, Great Northern and Northern Pacific, have put into operation family fares both over their own systems and on through inter-line journeys. The head of the family pays full fare, his wife and children up to 22 years half the fares they would normally pay, and children under five travel free. The plan was applied to first class fares from September 21 and to coach fares from October 19.

The only limitation is that journeys must begin on a Monday, Tuesday, or Wednesday. Tickets are valid on any train, and on trains for the use of which special service charges are required, the supplements are reduced in the same proportion. Certain other railways, such as the Illinois Central, the Wabash, and the St. Louis-San Francisco, are applying the plan only over routes where they are in competition with other lines which are applying it.

MEXICO

Wagon Building

The wagon plant being installed in the planned industrial community of Irolo, Hidalgo, and in which the Mexican National Railways will invest some 160,000,000 pesos ($18,603,000), will produce 800 wagons annually. It will satisfy all Mexico's wagon requirements. Production will be increased gradually to 1,600 wagons a year augmented slowly to double this capacity.

San Luis Potosi Works

The works at San Luis Potosi are being modernised. All shops are being converted to handle diesel engines and

Passenger Train Working on the Kenya Plateau

Nanyuki train leaving Nairobi, East African Railways & Harbours. The flats in front of the Beyer-Garratt locomotive are a precaution against possible obstructions on the line in the Mau Mau area traversed

are being fitted out with new machinery. Buildings are being modified to adapt them for diesel maintenance and repair.

CANADA

Fast C.P.R. Diesel Service

A two-car diesel set of stainless steel construction will go into service on the C.P.R. between Toronto and Windsor, Ontario, on November 30. Named the "Dayliner," it will cover the 226 miles in 4 hr., with seven intermediate stops, including one of 15 min. at London, Ontario, and thus afford the fastest service in the country.

BRAZIL

Itabapoana Railway

The Legislative Assembly of Espirito Santo has authorised the State Government to promote the reversion of the Itabapoana Railway to Federal administration. This line, 20 miles long, connects a small agricultural zone to the system of the Leopoldina Railway. It has been working at a loss since 1947.

Accidents on Central Railway

The Director of the Central Railway, reporting on the improved working conditions, points out that in 1951 railway accidents killed 78 persons and injured 449 and caused material losses of £40,407. The corresponding figures for 1952 were 100 killed and 429 injured, and £88,758; and for the first six months of 1953, 18 deaths and 120 injured, and £7,072.

Re-equipment of Goias Railway

President Vargas has approved the recommendations of the Brazil-U.S.A. Commission for re-equipping the Goias Railway. The line consists of a trunk line, Araguari-Goiania, and the Jarina-Anapolis branch, totalling 478 km. It connects at Goiandira with Rêde Mineira de Viaçao and at Araguari with the Mogiana Railway, penetrating 53 km. into Minas Geraes. The improvements entail an expenditure of U.S. $1,159,000 for imported equipment and 249,880,000 cruzeiros (£4,999,600) in national currency.

The projected work includes: laying 170 km. of heavy rails over busy sections; increasing the number of sleepers to 1,700 per km.; replacement of earth ballast by stone; elimination of sharp curves and steep gradients; purchase of 453 steel wagons, 33 refrigerator vans, eleven coaches, and 25 steam locomotives. Workshops and warehouses are to be re-equipped.

Credits for Railway Improvements

The following additional credits for railway improvements were opened in October: Brazil-Bolivia Railway, £880,000, for expenses to end of 1953; Goias Railway, £57,944, to pay for sleepers and firewood bought before 1951; Central, £20,000,000, to liquidate outstanding debts to the Federal Union and pay for materials bought abroad. As from January, 1955, the Central's credit account with the Bank of Brazil will be raised to £40,000,000, the railway to pay interest on advances at the rate of six per cent per annum.

EGYPT

Abu-Zaabal Locomotive Works Colony

To accommodate all the staff of the new locomotive works at Abu-Zaabal, near Cairo, a colony had to be constructed near the shops. The area allotted for the project is 600 acres. Schools, a hospital, shops, a co-operative society, cinema, library, club house, sports grounds for adults, and recreation grounds for children are provided.

Trees were planted in an area of 26 acres to protect the shops from sand storms and to improve the view. The colony is connected to Cairo by a special bus service as well as by a special train for the men who have no house accommodation at present.

ISRAEL

Improved Services Planned

Improved passenger services are promised by the General Manager of the Israeli Railways. Within two years the railways, which hitherto have been running at a deficit, could become a profitable enterprise operating on a commercial basis, if properly and efficiently managed, he asserted.

Nearly $15,000,000 from German reparations funds has been earmarked for re-equipping the railways, and a list of goods totalling $6,000,000 prepared. The second list includes new signalling equipment.

Three 1,125 h.p. diesel locomotives built in Belgium have proved highly satisfactory. Two hundred and fifteen wagons have also been bought in Belgium, and will all be in service shortly. One hundred km. of rails have been purchased in France, and 150,000 sleepers in Finland.

The Ministry of Communications plans to buy ten diesel sets, each consisting of a motor coach and two trailers. Railcars running every hour between Tel Aviv and Haifa will reduce travelling time to 75 min.

Half the earthworks for the Na'an-Beersheba line have been completed: eighteen bridges have to be built. The new line is to be ready in 1955. A 55-km. extension to Kurnub will then be undertaken.

SWITZERLAND

Federal Railways Budget for 1954

The budget of the Federal Railways for 1954 envisages working receipts totalling fr. 699,100,000, while the working expenditure is foreseen at fr. 508,900,000. The working surplus of fr. 190,200,000 thus resulting is fr. 21,600,000 lower than the working surplus which obtained at the end of 1952.

Construction covering renewals, reconstructions and further development of plants, structures and rolling stock including also locomotives has been budgeted at fr. 148,200,000, out of which fr. 26,600,000 will be at the charge of the working account.

Zurich-St. Gall Doubling

Double-track working throughout was introduced on the 52-mile Zurich-St. Gall main line of the Federal Railways on October 8, after completion of the doubling of the short section between Winterthur-Grüze and Räterschen further east. The work involved construction of three underbridges and replacement of five level crossings, and took two-and-a-half years to complete.

ITALY

Ferrara-Rimini Electrification

The 77-mile single-track main line from Ferrara (70 miles south-west of Venice) via Ravenna to Rimini is to be electrified. The line carries a heavy tourist traffic in summer.

Partial Revision of Fares

A partial revision of passenger fares is being studied by the State Railways. It is intended to reintroduce the kilometric tickets which, adopted in 1939, were discontinued in 1941, not having been a success. The main reason of the failure was the long and complicated procedure for the issue of tickets, requests for which had to be made at least five days in advance of the proposed date of issue.

A scale of reductions, progressively rising with longer distances to be covered, will make the new kilometric tickets more attractive though their validity will be limited.

FRANCE

Dormitory Coaches

From November 15 to March 15 the S.N.C.F. will have available a limited number of special coaches providing dormitory accommodation suitable for parties of young people (particularly winter sports enthusiasts).

The coaches are separated into two large compartments by a central platform, and provide a total of 60 berths of metal construction, complete with mattress, pillow and blanket. These berths are arranged in tiers of three, one above the other, along the centre. Special racks are provided for baggage, and there is a toilet compartment at each end of the coach.

The fare charged for travel in these coaches is the third class party fare (30 per cent or 40 per cent reduction on the ordinary fare, according to the number in the party), plus one-half the ordinary supplement for a couchette berth, that is 10s. 6d. per berth (£31 10s. per coach) in each direcion.

Loudspeakers in Sidings and Sheds

Two-way communication with flexible priority arrangements over indoor and outdoor circuits

CONCURRENTLY with the increase in number of station announcing systems, there has been steady development in the use of loudspeakers and microphones for intercommunication between operating staff in yards and depots. Installations of this type differ from the normal station scheme in that there must be provision for passing messages both ways, so that an amplifier may receive input from several circuits. This involves arrangements to prevent interference by two or more persons speaking simultaneously, but it is also necessary to have a system of priority switching so that messages from certain points can override any others that may be in progress. In some cases priorities may be given automatically to certain types of signal, and these may be graded. A time signal, for example, may override an ordinary message, but a fire alarm would override a time signal. These are known as "cascade" priorities.

Several amplifiers may be required to give all the facilities required, and these may be dispersed about the site instead of being concentrated in one apparatus room.

Outdoor Microphones

Even when amplifying apparatus is dispersed as described above, some microphones in a large yard, for example, may be at a considerable distance from the amplifier to which they are connected. Experience with modern low-impedance microphones and high-gain amplifiers has shown that, with suitable choice of gauge of cable, distances of ¾-mile to a mile can be covered without it being necessary to use pre-amplifiers. In such circumstances the microphones are usually outdoors, and the main problem connected with their use is that of weatherproofing. Special attention is being paid by designers of equipment to this characteristic. Units consisting of microphone, pushbutton, and terminal box have been examined after some two years' service at Toton Up Yard, L.M.R., and their condition found to be unimpaired. The Toton installation, for which the sound equipment was supplied by the General Electric Co. Ltd., provides 13 two-way communication circuits among its other facilities.

Outdoor loudspeakers are usually mounted at a sufficient height to be clear of screening by rolling stock, making use of existing lighting or other poles when possible. An alternative arrangement is to group units on a tower, and this practice is likely to increase if tower floodlighting systems replace lighting by lamps and reflectors on individual poles. Loudspeakers have been found fully effective in passing instructions to engine crews in most circumstances, although men on diesel shunters need to be warned to be on the alert for verbal messages if working with the cab windows closed in bad weather.

Carriage Shed Installation

A combination of outdoor and indoor two-way communication facilities had to be provided at the new Willesden carriage shed of the London Midland Region (described in our March 13 issue). Loudspeaker messages inside the shed combine with visual warning signals of various kinds to inform staff when stock is about to be moved from stage to stage by the mules, controlled by operators in elevated cabins at each end of the building. The sound equipment also enables the mule operators to keep in touch with each other and with supervisors on the platforms. This installation was supplied by the General Electric Co. Ltd. to the requirements of the Signal & Telecommunications Engineer, London Midland Region.

Roads 1 and 2 in the shed and their associated control cabins form an entirely independent operational system from roads 3 and 4, and the sound equipment installation follows the same pattern. On each pair of roads there are facilities for two-way loud-speaking communication between the two control cabins at each end of the shed and also between each cabin and its road loudspeakers. In addition, two groups of microphones, four in each group, on the road platform give calling facilities to the adjacent control cabin.

The loudspeaker cabinet in each cabin houses two loudspeakers, one linked with the microphones on the road and the other to the cabin at the other end of the shed. In conjunction with 21 loudspeakers arranged above the platform, this gives two-way communication between the platform microphone points and their adjacent control cabin. There is also provision for the shed foreman to address staff on both systems when the equipment is not in use operationally. Altogether 12 amplifiers (eight of 10 W. and four of 30 W.) and 21 microphone control units are grouped to give eight two-way communication circuits between the platform and the shed.

Remote Control Equipment

Amplifier and remote control apparatus for shed communications are installed in the main signal and telecommunications equipment room. Roads 1 and 2 are dealt with by the right-hand bay of the apparatus and roads 3 and 4 by its left-hand bay, the duplication of 30-W. amplifiers and control gear providing simultaneous facilities. Messages from the platform microphone points are fed to 10-W. amplifiers in the same racks as the 30-W. equipment. An interlocking system has been devised for each half of the system to prevent more than one message being fed to an amplifier at any time.

On the two-way system between each pair of control cabins (10-W. amplifiers), "random lockout" by means of relays enables either caller to engage the system without interruption. A similar lockout technique has been used in the input circuits of the main equipment carrying messages from the control cabins to the roads. An extra microphone is provided for the foreman, but its operation is conditional on the equipment not being engaged, so that it always can be overridden for operational calls.

In addition to the relays employed for speech input switching, H.T. control, and automatic connection of the appropriate loudspeakers, further relays provide a comprehensive pilot lamp system which indicates, for instance, to one control cabin operator that his colleague in the other cabin in his group is using his microphone. The first controller, by refraining from calling while the lamp is lit, avoids the danger of his message being re-broadcast via the other operator's microphone. There are thirty 26-V. control relays in the system. As is now general practice, the amplifiers are normally at "standby" with filaments heated, and are brought into action by remote switching of the H.T.

Apparatus in Signal Boxes

A signal box standing a quarter of a mile from the north end of the shed controls the marshalling of carriages into the shed. An amplifier rack in this signal box provides an independent system of two-way communication between the box and a microphone and loudspeaker point at the north end of the shed. The marshalling of carriages to be taken out of the yard at the south end of the shed is controlled by a similar independent two-way communication system. Both installations comprise one 30-W. amplifier for outgoing messages from the signal box, and one of 10 W. to handle incoming calls.

Outdoor loudspeakers in this installation are exponential horns, and indoor units are platform diffusers of a type widely used for station announcements.

The variations of switching for priorities and preventing interference that can be provided in a modern sound equipment installation are very numerous. Multiplication of relays naturally increases the demands on maintenance if full efficiency is to be maintained. Experience has shown, however, that certain interlocks and indications that may seem indispensable on paper, can in fact be dispensed with when the apparatus is used with understanding and proper regard for rules of procedure.

Passenger Traffic Developments in the Netherlands

Fast interurban electric trains: accelerated services over new spur at Rotterdam

(*By a Correspondent*)

THE principal passenger traffic development on the Netherlands Railways in recent years has been the introduction of regular-interval services on both electrified and many non-electrified lines, the great majority of the latter being worked by diesel train sets. The interposition of international expresses now mostly hauled by electric locomotives over the electrified sections, in some cases breaks the sequence of regular timings, though usually such trains are additional to the interval services.

Considerable accelerations of stopping services were effected through the policy adopted between the wars of closing smaller wayside stations and halts, with the communities formerly served by these stations served by omnibus services to and from the larger population centres and more important railway stations, where connections are given with fast trains.

The multiple-unit electric refreshment car trains and branch line connections enable travellers from the remotest corners of the country, at least on the mainland, to leave home after 7 a.m. spend 8 hr. in Amsterdam, The Hague, or Rotterdam, and arrive home by midnight, and few important centres are more than 3 hr. by rail from Amsterdam, the exceptions being in Zeeland, on the island of Walcheren, where the line between Roosendaal, Middelburg, and Flushing has not yet been electrified; on the other hand, the remote provincial capitals of Leeuwarden, Groningen, and Maastricht, are well within 3 hr. of Amsterdam by multiple-unit electric train.

This is the more remarkable in that Allied bombing and systematic removal of equipment from and destruction of the railways under wartime enemy occupation left Holland deprived of 84 per cent of its locomotives, 99 per cent of its electric stock, 68 per cent of its signal boxes, 70 per cent of its bridges, and 62 per cent of its track. Yet today the Netherlands Railways are operating what is probably the fastest interurban service in Europe with such short distances between stops.

Fast Schedules

The prewar situation, with 393 daily runs (aggregating 7,382 miles) timed from start to stop at 60 m.p.h. or over, has not yet been regained, but the summer service of 1953, with 213 runs (4,670 miles) at this speed, shows a remarkable recovery, as may be appreciated by comparing this with the corresponding British figure of 2,107 miles only. Before the war the Dutch total comprised 4,235 miles by electric, and 3,147 miles by diesel-electric trains; the present 4,670 miles is by electric services only. The fastest stretch is the line from Utrecht to Groningen; over the 106·3 miles from Amersfoort to Groningen the times of the hourly trains range from 119 min. with five intermediate stops to as little as 110 min. with three stops, one, at Zwolle, of 5 min. duration.

Electrification

Not only did the Netherlands Railways start immediately after the freeing of their country to make good war damage, including repair of much wrecked overhead electric equipment, but the extension of electrification, already comprehensive before the war, was decided and embarked on, so that relatively few heavily trafficked sections now remain unconverted. Accounts of the progress made as the various sections have been electrified have appeared in *The Railway Gazette* from time to time.

The basis of the scheme is stated to be distribution of current from the Limburg coalfield. Factors justifying the heavy capital cost of electrification are the absence of coal in other parts of the Netherlands and the heavy coal traffic northwards from Limburg. Coal trains run largely by night over the lines traversed by intensive passenger services by day, and coal trains and empties are hauled over the electrified sections by electric locomotives used also for international and other trains not formed of multiple units.

New Spur at Rotterdam

Important improvements have been made in the winter timetable in connection with the new works executed at Rotterdam. Opening of a new spur between Nieuwerkerk, on the line between Rotterdam Maas terminus and Gouda (-Utrecht) and the *Verbindingsbaan* or Rotterdam connecting line (which links the Maas with the former Delftsche Poort, now known as the Central, stations, and is traversed by boat trains between the Hook of Holland and Utrecht, North Germany, and Scandinavia) has resulted in a new fast passenger route between Amsterdam and Rotterdam. The new spur much shortens the distance between Gouda and Rotterdam Central and The Hook. A new station, Rotterdam Noord, has been opened on the *Verbindingsbaan*.

Amsterdam-Rotterdam in One Hour

The most important innovation is a service of multiple-unit electric trains from Amsterdam Central to Rotterdam Central routed over single-track line from Breukelen to Woerden, avoiding Utrecht and passing through Gouda. Formerly two trains daily on Mondays to Fridays provided a service over this route, stopping at Amsterdam Muiderpoort, Amsterdam Amstel, Woerden, and Gouda and making the journey in 1 hr. 11-14 min. As from October 4, 16 trips each way are made on weekdays, providing a regular hourly service all day. Twelve trips each way on Sundays provide some morning journeys and a regular hourly service from about 3 p.m. onward. This service takes 1 hr. 2-4 min., including an additional stop at Rotterdam Noord, the latter being reached within 1 hr. from Amsterdam.

The new service has been widely advertised as running "every hour, in an hour" between Amsterdam and Rotterdam, an interesting parallel to the publicity given to the London-Brighton electric services of the Southern Railway. Before the first world war, a few steam-hauled expresses ran between Amsterdam Weesperpoort and Rotterdam Maas via Gouda in 55 min., in competition with the Amsterdam-Rotterdam line via Haarlem, Leyden, The Hague, Delft, and Schiedam.

Most multiple-unit trains by the latter route, electrified in 1927, take 1 hr. 15 min. between Amsterdam Central and Rotterdam Central, stopping at the five places named. In addition, international trains between Amsterdam, Brussels, and Paris or Switzerland, hauled in most cases by electric locomotives, are allowed 1 hr. 4-8 min., stopping only at The Hague.

All services between Rotterdam Maas and Gouda, Utrecht, and points beyond have been transferred from the Maas station to run into Central Station by the new spur. Rotterdam Maas station thus is no longer used by regular passenger services. In general, electric trains between Rotterdam Central and Zwolle, Groningen, and Leeuwarden, and between Rotterdam Central and Hengelo and Enschede stop at Rotterdam Noord, and those between Rotterdam and Roermond via Utrecht and 's Hertogenbosch and between Rotterdam and Arnhem and Nijmegen run non-stop between Rotterdam Central and Gouda.

Accelerations to and from The Hook

An alteration has also been made in the schedules of the day and night trains between the Hook of Holland and North Germany, and Scandinavia via Utrecht. These trains formerly stopped at Schiedam, junction between the Rotterdam-Hague-Amsterdam main line and the Rotterdam-Hook branch, and took 1 hr. 11-14 min. between The Hook and Utrecht, travelling over the *Verbindingsbaan*. The new timetables provide for a stop at the more conveniently situated Rotterdam Noord instead of at Schiedam, and the running time between Hook of Holland and Utrecht has been cut in each case by 11-14 min.

French-Built Rolling Stock for Mexican Railways

Open type saloon of vestibule design to seat 80 passengers

THE National Railways of Mexico placed orders some two years ago for a large quantity of rolling stock with a view to improving existing main-line services. The orders included restaurant cars, Pullmans, first class observation cars, and first class open type carriages with centre gangways and vestibules. As part implementation of the scheme, the railways are now taking delivery of 50 first class carriages, constructed by Entreprises Industrielles Charantaises, La Rochelle.

The rolling stock is of an entirely new design in so far as the National Railways of Mexico are concerned. The builders were allowed considerable latitude in design detail, and to avoid delay their design staff visited Mexico to obtain approximate requirements and to discuss with the railway authorities possible design specifications and other relevant particulars. So successful was this approach that it is stated that the first two carriages were delivered 13 months after the signing of the order, and the remaining 48 were completed at the rate of eight a month.

The tare weight of the carriages is 49 tons and they are shipped in the fully erected condition except for the bogies.

The principal dimensions are as follow:—

Gauge	4 ft. 8½ in.
Length over buffers	85 ft.
,, ,, headstocks	82 ft. 10 in.
,, ,, passenger compartment ...	66 ft. 9 in.
Width over body panels	10 ft.
Tare weight	49 tons

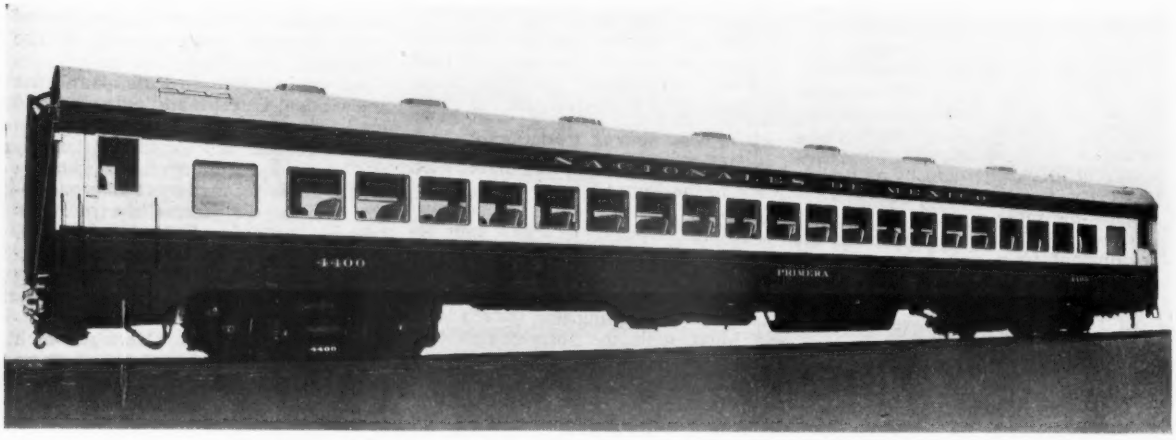
Design Features

A feature of the design of the new rolling stock is the length of the passenger compartment, 66 ft. 9 in., which is provided with 80 reversible seats. Conditioned air is supplied, the air ducts being incorporated in the luggage racks in the compartment. Basically the underframe, bogies, and coupler equipment conform to the specification of the Association of American Railroads, a necessary requirement as they run on through services from Mexico to the United States.

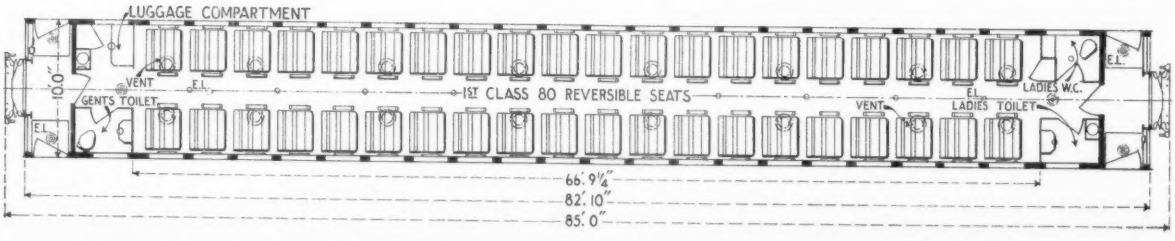
The interior is in the form of a single saloon with a centre gangway between two rows of double seats with reversible backs; the seats are upholstered in brick-red mohair velvet which imparts a pleasing tone blending with the interior decorative scheme. Vestibules are included at each end and access is by folding steps. On the access door being opened by foot action, a locking device is released which in turn unfolds the steps. A torsion equaliser is incorporated and the door and steps can be manœuvred without effort.

Toilet compartments and a baggage compartment are arranged at each end of the passenger compartment, and separated from the vestibule by glazed doors of plywood. Iced drinking water containers are provided in the toilet compartments. Steam heating is by Westinghouse radiators with thermostatic control and placed below the washbasins. The inner roof sheets are of aluminium and the inside body panels, in the form of a lining, are composed of 2 mm. sheeting which are embossed and connect at the point of radius with the outside sheeting of Martin steel which is 1·5 mm. thick.

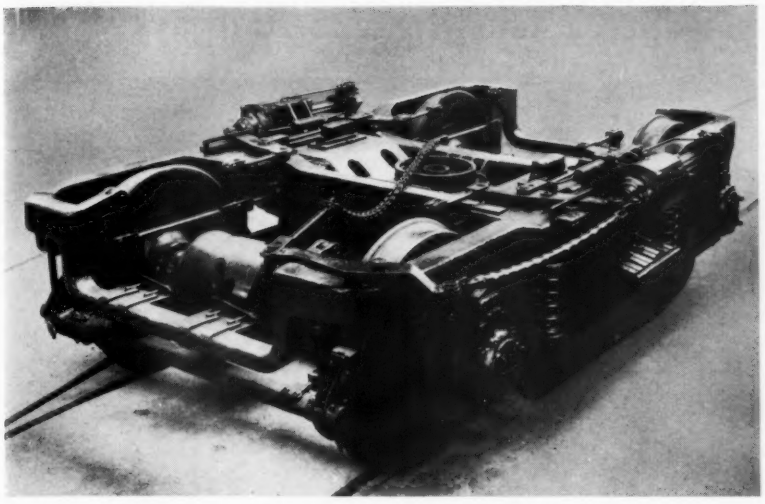
Sound proofing and heat insulation are afforded between the inner and outer roof sheets and body sides by Alfol insulation to reduce direct radiation. Isover, 255 mm. thick, cushioning is fitted to the floor of the carriage. The floor is of poplar 25 mm. thick, and is laid on beech members with asphalt between, covered in turn with three strips of 6 mm. thick linoleum. The central



The National Railways of Mexico open type saloon of vestibule design



Layout showing principal dimensions and the arrangement of seating in the new Mexican rolling stock



The Pennsylvania type bogie showing the braking and spring gear arrangements

strip is, for decorative purposes, of a different colour to the side strips.

The window frames are of a monobloc design of light alloy, and mounted to the bodysides by means of a rubber seal to prevent water permeating into the interior. Double glazing is provided. The window catches are of stainless steel, and because of the tightness of the windows no balancing equipment is incorporated. Altogether, some 2,100 windows were required for the 50 carriages, and these were fabricated on a production basis to reduce costs.

Ornamental light luggage racks fitted on each side of the passenger compartment are designed to form a casing for the conditioned air ducts. Sixteen Aerodyne fixed ventilators of the L.300 type are fitted. The flow of air can be adjusted by the train attendant. In addition at each end of the carriage are two electric fans which supply air through the ducts. The air is distributed through the lower part of the luggage racks and can be regulated directly above each passenger by movable vents of the Vega type.

The carriages are of all-steel construction of integral design. The underframe longitudinals and cross members are composed mainly of Martin B.O. steel. Pressings of channel and Z section are used for the bodysides and roof structures which are of welded construction. The ends of the underframe are strengthened by steel castings which extend from the bogie centres to the headstock, and carry the central couplers of the Tightlock type; the equipment corresponds to United States standards.

Pennsylvania bogies of cast steel are fitted; the bogie cradles are also of cast steel. Manganese liners are fitted to the bogie pivots. Air brake equipment is of the American Westinghouse type D22 AR., and provides four brake cylinders on each carriage, two on each bogie. One American Miner type handbrake is fitted at each end of the carriage in the vestibules and applies brakes to two wheels of each bogie.

Electrical Equipment

Diffused lighting is provided in the passenger compartment by channel strips of decorative design placed in the centre of ceiling. The electric lighting equipment is planned so as to make the carriage a self-contained vehicle, capable either of receiving power from another source, or of supplying it itself while in service. It allows for battery charging from fixed installations, and for isolation of the battery from the equipment when the carriage is in the sheds, both operations being effected by a single switch.

The equipment supplies the lighting and fans, which can be operated at full power, half-power, or switched off. A control known as the intercommunication switch, selects the normal surge of operating conditions effecting the battery, number of fans in use, dimmed lighting, and the functioning of the lamp voltage regulation. Full-intensity lighting is brought into action by a separate switch.

The electrical equipment consists of a 4-pole, 32-40-V., 3·6-kW. shunt dynamo, with polarity reversal switch for turning the brush sets through 90 deg., a 24-cell cadmium-nickel battery of 384 amp.-hr. capacity, and regulators for dynamo output and lighting circuit voltage, together with an electrical control board. The dynamo cuts in at 500 r.p.m.

The side of the carriage completely fabricated and ready for erection to the underframe

X-RAY DIFFRACTION EQUIPMENT.—Philips Electrical Limited has introduced a X-ray diffraction unit which, it is claimed, covers the immediate besides the long-term needs of any research worker in this field. Known as the PW.1010, the new unit employs the Philips system of interchangeable "sealed-off" X-ray tubes with different anode materials and high-transmission mica beryllium windows. The need for a separate and continuously operated vacuum system is thus eliminated. The equipment need only be switched on and is ready for use. The high tension generator employs a single thoriated tungsten filament valve and the smoothed d.c. output is stabilised electronically to within 0·1 per cent. Variations in mains voltage up to 10 per cent plus or minus are compensated for automatically. Stabilisation is unaffected by frequency drift. Each working position on the camera table is provided with an electromagnetically operated shutter controllable manually or by built-in time switches. A system of interlocks guards against failure of mains or water supplies and incorrect handling. Any type of camera can be used, including a Weissenberg goniometer; provision is made for the X-ray tube to be used either vertically or horizontally or by means of a cable, away from the unit. The high degree of stabilisation makes the equipment particularly suited to Geiger-counter spectrometry with or without an automatic recorder.

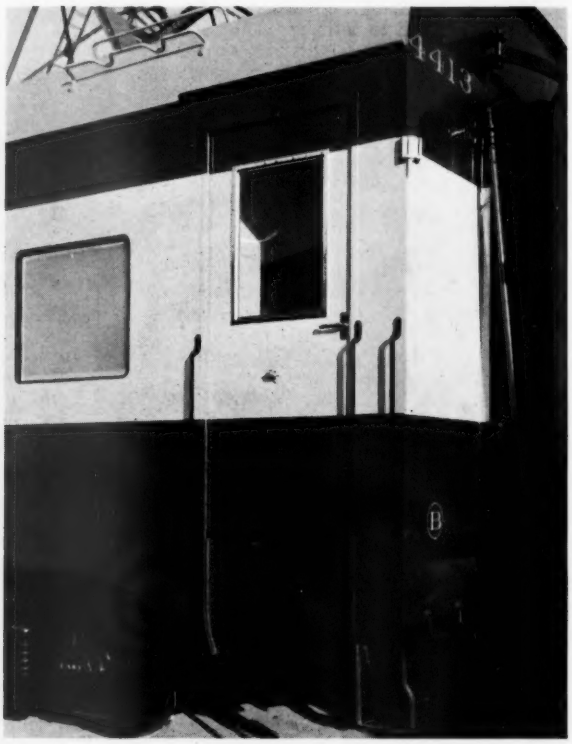
XUM

French-Built Rolling Stock for Mexican Railways

The interior of the body showing the method of construction and Alfol insulation

Seating arrangement of the interior, the parcel racks incorporate air ducts

Vestibule access steps which incorporate a balancing equipment for ease of operation



Access doors in the closed position, the steps unfold automatically on the opening of the door

Grouting of Railway Embankments

Western Region develops simple and cheap method

Apparatus used in preparing the mix

THE continual passage of heavy traffic over or adjacent to clay formations in which fission has taken place inevitably exaggerates the fault. Consolidation of the fissures must be carried out continuously, as inadequate grouting eventually results in slips and deformations. Traditional and proved methods of stabilisation, such as counterforting and sheet piling, would be prohibitive in cost because of the length of bank involved.

A new development recently under test by the Western Region of British Railways produces results of greater permanency than those achieved by methods previously in use. Cost per lineal foot of track so treated is about £8, excluding the purchase price of the plant, compared with some £50 for counterforting.

Trials of the new method now in progress on a long embankment between Banbury and Leamington Spa and near Fenny Compton Station were begun about a year ago. The stabilisation of the fissure is effected by means of a neat cement water grout injected under pressure.

This method differs from that known as track grouting inasmuch as the grout is introduced much deeper below track level—from 15 to 17 ft.—and at a relatively higher pressure.

Before use of the technique under consideration, difficulties were experienced in grouting work mainly through the grout working its way upwards round the outer periphery of the tubes used for its introduction into the embankment.

Slotted Grouting Point

To overcome this tendency a grouting point has been designed which is so constructed that the slots through which the grout emerges remain covered and clear of the soil while the point is being driven to the required depth.

When this depth has been reached a bar is inserted in the tube and driven down on to the point, which in turn is forced deeper into the earth. This point is a part of a slotted inner sleeve, the slots up to this stage having been covered by the outer cylinder. The grout is injected down the cylinder direct to the grouting point without the use of a compressor. Because of the special construction of the point, the slots through which the grout emerges are unclogged by soil. The point is attached to the tube by means of a large collar. This creates a wedge of soil which acts as a seal and prevents the flow of grout upwards.

The points are driven by a simple hand-operated pile-driving frame. They may be extracted and re-used. The point

Driving in grouting point

Extracting grouting point

Grouting point extracted

has a capacity of 18 cwt. of neat cement. Work so far has involved the driving of some 1,500 points, and has resulted in the removal of the speed restriction previously in force throughout the year on traffic on this embankment.

Necessity for track fettling has been greatly lessened. The constant attention which the area previously demanded is no longer necessary, and all that is now required is slight occasional lifting due to the continuous consolidation of ashes which were tipped in places where slips had occurred.

Two types of grout have so far been used and found suitable for this work. These are mediums produced by the Colcrete and by the adapted Aerocem processes.

Colcrete Process

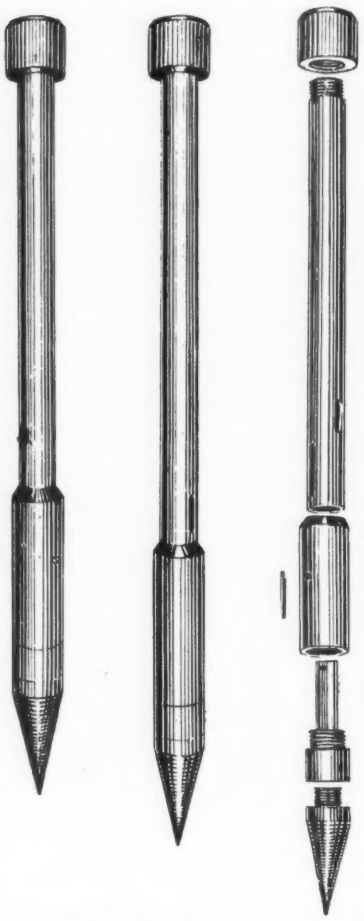
Under the Colcrete process the collodial cement-water mix is injected to depths of up to 15 ft. A rotary pump forces the mixture via the grouting points, which are spaced at 5-ft. centres, on a grid pattern on the slope of the bank. Pressure does not exceed 100 lb. per sq. in.

Aerocem Process

In the Aerocem process the aerated cement-water mix is introduced to the bank in a similar manner. By the use of this process a saving of approximately 45 per cent in the quantity of cement is achieved.

The results produced by the use of both these grouts show no apparent differences. The aeration of the grout allows sand to be included in it and held in suspension during injection through the point so that still greater savings in cost of material may be made.

Trials designed to discover suitable sands for this process have shown the limits of the gradings required. The aerated concrete formed is impermeable. High strength is a secondary consideration. As the primary purpose of the aerated concrete is to fill voids in the bank, this mix adequately replaces the Colcrete grout.



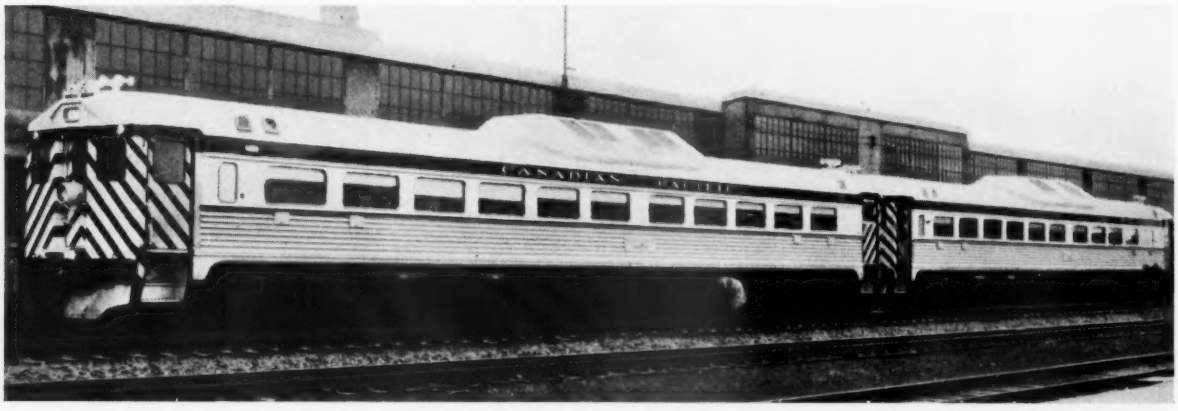
The grouting tool shown, first, closed for initial driving, secondly, with slot exposed, and, thirdly, in its constituent parts

ELECTRIFICATION OF GENEVA-CULOZ LINE.—According to a recent decision of the French National Railways, the double-track main line between Geneva Cornavin and Culoz, 41 miles (of which the 9-mile section between Geneva and La Plaine is in Swiss territory) is to be electrified by 1956. Preliminary work has begun in both countries.

CARRONBRIDGE AND BOWLAND STATIONS TO BE CLOSED.—Carronbridge, on the Kilmarnock-Dumfries main line, and Bowland, on that between Edinburgh and Galashiels will both close on December 7. Passenger train parcels and other merchandise traffic and freight train traffic to and from Carronbridge will then be dealt with at Thornhill. Bowland will remain open as a public siding for freight in full wagonloads; parcels and other merchandise by passenger train and freight in less than wagonloads will still be handled at Stow, as now.

BRITISH RAILWAYS MOTOR DRIVERS RECEIVE AWARDS FOR SAFE DRIVING.—Among the 1,128 motor and horse drivers of British Railways in Scotland who have gained awards in the 1952 Safe Driving Competition organised by the Royal Society for the Prevention of Accidents 155, who have won five or more year "Accident Free" medals, are employed in Glasgow. On October 27, Mr. T. H. Hollingsworth, Commercial Superintendent, British Railways, Scottish Region, presented the awards to the successful drivers from College, High Street, Buchanan Street, and Eglinton Street Goods Stations and to parcels vanmen from the main city terminal stations.

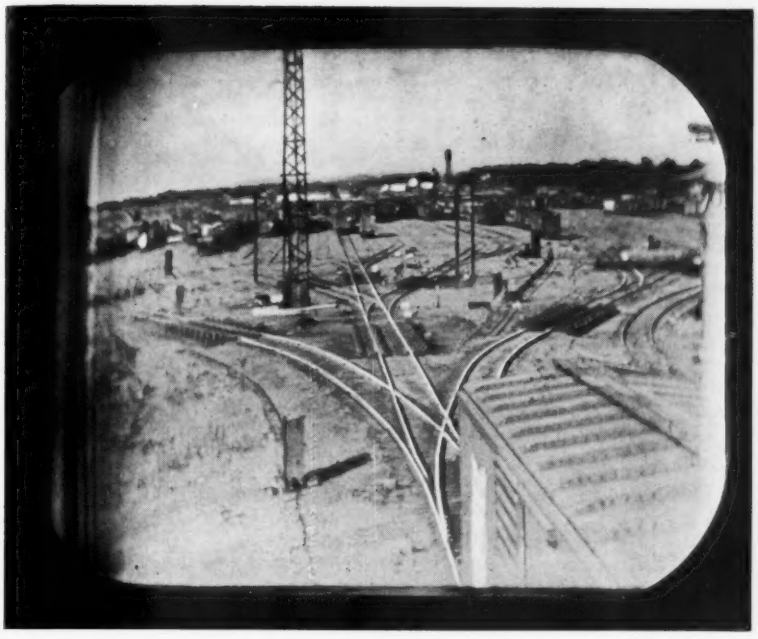
Diesel Set Working in Canada



Stainless steel two-car diesel set of the Canadian Pacific Railway to be introduced on a new fast schedule between Toronto and Windsor. (*See paragraph on page* 541)

Industrial Television for U.S.A. Marshalling Yard

Closed wiring system to speed up classification and inspection of wagons



General view of yard on monitor screen, showing clear view obtained of large number of roads

INDUSTRIAL television has made great progress in the U.S.A., where a wired circuit is used for comparatively short distance transmission. Special low-priced industrial types of television camera have been manufactured by American firms to facilitate industrial applications. Although the screen, i.e., the number of televised points of light per unit area of the receiving screen, is smaller than for wireless work, clarity of reception suffices for industrial purposes.

One of the leading American manufacturers of industrial television equipment, the Allen B. Du Mont Laboratories of Clifton, New Jersey, has devised the application described below for speeding up shunting operations at one of the principal marshalling yards of the New York, New Haven & Hartford Railroad.

The railway company was interested in the possibilities of employing television for the following tasks: Record box car numbers as a train goes into the classification yard; observe and control the flow of cars on to the proper tracks in the classification yard; inspect incoming trains for defects such as hot boxes, open doors, and similar faults; and inspect floors of covered vans for wear or damage.

Field Test

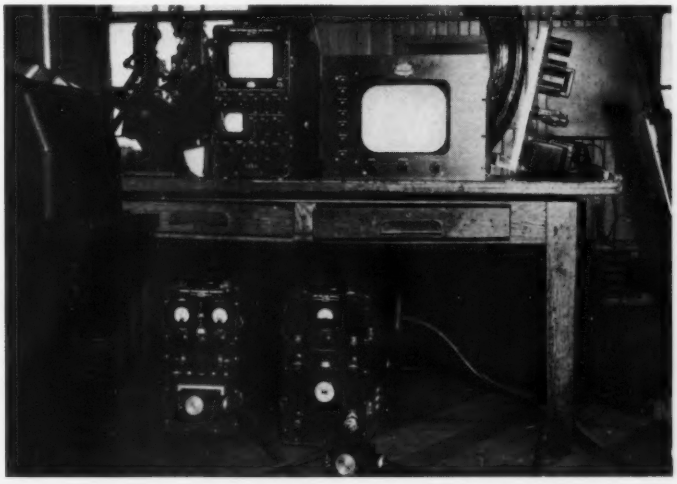
For a field test, a standard Du Mont field-type image-orthicon camera chain was employed. This equipment is of the type used by broadcast television stations for remote pick-up of outdoor events.

Several days of testing at the classification yards at New Haven showed that the equipment could satisfactorily perform all the operations enumerated above. Box car numbers could be read easily, not only in the daytime but also at night with only the simplest of lighting equipment.

Small Objects Visible on Screen

The ability of the image orthicon to resolve small details of an object in motion under low ambient lighting proved to be a very necessary qualification and one that some other types of television designed for industrial use could not pass.

The equipment described was mounted temporarily in the yard-



Mounting television camera (left), showing compactness and lightness of equipment. (Right) installation in yard supervisor's office, with monitor and camera control on the left on the table, 12-in. monitor on right; portable synchronising generator and power supply are below

XUM

Picture on 12-in. monitor screen; the number of the vehicle and other indications can be easily read by day and, with lighting, by night

master's office, and all tests were viewed on the high-quality monitor, of the type used in broadcast studios.

For a test of ability to show enough detail to control classification procedures the camera was mounted on a pole about 20 ft. high. The resulting view of the tracks was of sufficient detail to assure the railroad that the application was practical.

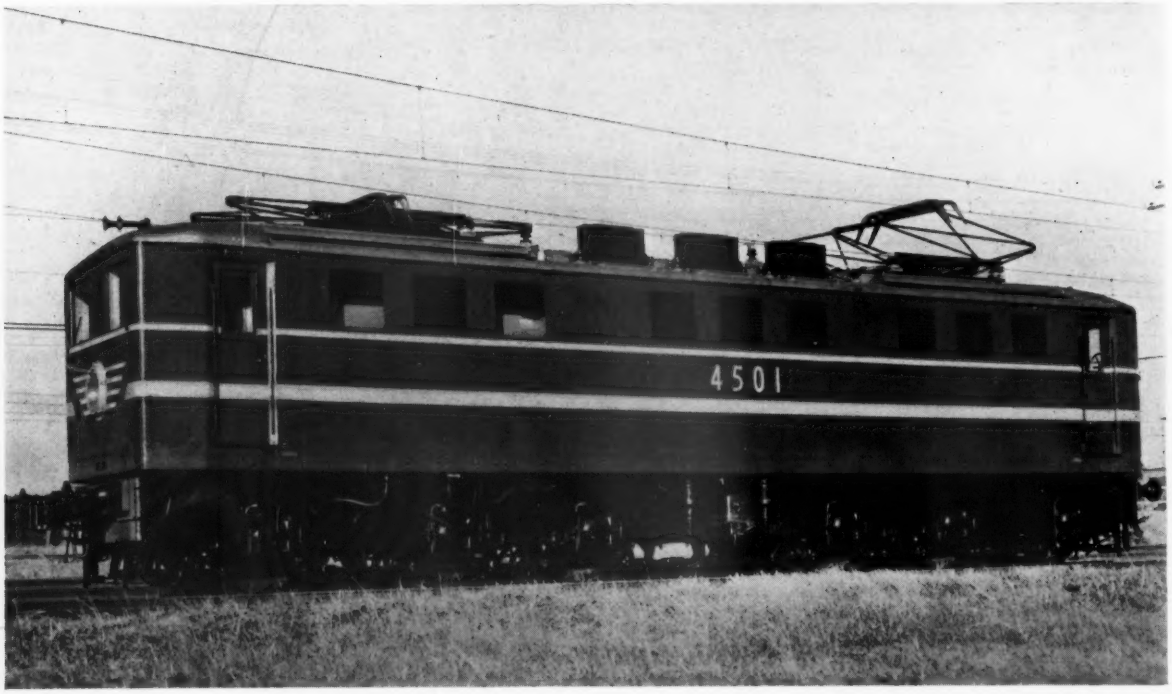
Remotely Sited Cameras

Any railroad could, if desired, instal cameras at vantage points as much as two miles apart, it was found. Signals would then be brought from all cameras to a control monitor and control point where one man could obtain continuous information which formerly required extra effort and equipment.

Freedom from Interference

Because the industrial television system is a closed wiring system, it is not subject to the interference that wireless transmission experiences. It is claimed by the makers of the equipment described that a sound compromise has been reached between first installation cost and practicability.

Main-Line Electrification in New South Wales



Main-line electric locomotive built at the Chullora Workshops of the New South Wales Railways for the Sydney-Lithgow electrification now in progress. The six 450-h.p. motors provide a starting tractive effort of 60,000 lb.; the total weight of the locomotive is 112 tons

WITHDRAWAL OF MARKET HARBOROUGH-NOTTINGHAM VICTORIA AND LEICESTER-GRANTHAM SERVICES.—Passenger services will be withdrawn from the Market Harborough-Nottingham Victoria and Leicester Belgrave Road-Grantham lines on December 7 in view of the lack of traffic. The present collection and delivery services will continue.

RAILWAY NEWS SECTION

PERSONAL

Mr. E. G. Trangmar, who was Personal Assistant to the Chairman throughout the existence of the Railway Executive, and who previously had been Personal Assistant to the General Manager of the Southern Railway, retired on October 31 after 43 years of service with the London Brighton & South Coast, Southern, and British Railways.

Mr. H. Adams Clarke
Chief Officer (Staff & Establishment), British Transport Commission, 1948-53

The late Mr. W. Hood
General Manager, Great Indian Peninsula Railway, 1946-48

Mr. Hervey Adams Clarke, M.Inst.T., Chief Officer (Staff & Establishment), British Railways, who retires from the service on November 20, was born in Dublin and educated at Tipperary and Woodbridge, Suffolk. He began his railway service on the Great Western Railway in the Audit Office at Paddington in 1907, and, in 1909, he was transferred to the Chief Engineer's Office. In 1914 Mr. Adams Clarke was posted to the Divisional Traffic Superintendent's Office at Paddington, and, in 1917, he was promoted to the Staff Section, General Manager's Office, of which section he became head in 1921. In 1936, he was apointed Staff Assistant to the General Manager and, in 1941, Chief Staff & Establishment Officer, which position he occupied until he was appointed to the Railway Executive in January, 1948. He was Secretary to the company's side of the G.W.R. Sectional Councils and Railway Council set up under the Railways Act, 1921, until 1929, afterwards acting as the General Manager's representative on the Sectional Councils. Mr. Adams Clarke was Chairman of the G.W.R. Central Ambulance Committee from 1936 to the end of 1947. He has been a member of the Railways Staff Conference, Railway Staff National Council, and other negotiating bodies dealing with railway staff. He is a member of the Management Committees of the G.W.R. Superannuation Fund and of the G.W.R. Salaried Staff Widows' & Orphans' Pension Society, and is a member of the Joint Training & Education Advisory Council and Joint Welfare Advisory Council. He is Chairman of the Inter-Executive Committee on Staff matters, the Railway Headquarters Staff Suggestions Committee and of the Committee on First Aid Matters. Mr. Adams Clarke has been a member of the National Advisory Council on the Employment of the Disabled for a number of years, and of the Blind Persons' Committee and Sheltered Employment Committee of that Council. He is also a member of the Edgware Road Disablement Advisory Committee, the General Council of the British Association for Commercial & Industrial Education, and the Headquarters Committee of the St. John Ambulance Association. Mr. Adams Clarke took an active part in the affairs of the Great Western Railway Staff Association for a number of years, and he holds the rank of Commander of the Order of St. John of Jerusalem.

We regret to record the death on November 6, at the age of 60, of Mr. William Hood, O.B.E., O.St.J., General Manager of the Great Indian Peninsula Railway, 1946-48. Mr. Hood was educated at Glasgow and the Royal Technical College, of which he was an Associate in Civil Engineering. He was a pupil with Alex Findlay & Co. Ltd., of Motherwell, and was appointed Resident Engineer on works for the Admiralty, War Office, and Ministry of Munitions. He went to India during the 1914-18 war and served five years in Military Engineering Services. In 1925 he was appointed Deputy Chief Engineer (Bridges) to the Bridge Department of the G.I.P.R. and was associated closely with the design and construction of most of the major bridges on the system. In 1932 he was promoted to administrative rank in the Engineering Department. In 1936 and again in 1938 Mr. Hood was called to the Railway Board and appointed Deputy Chief Controller of Standardisation. He returned to the Great Indian Peninsula Railway in 1940 as Deputy Chief Engineer, Construction, and during the recent war he was responsible for the speedy construction of the railway's war works. In 1945 he was appointed Chief Engineer, becoming General Manager in 1946, in which capacity he remained until his retirement in 1948. The funeral service, followed by cremation at Putney Vale, took place on Wednesday, November 11.

Mr. J. Blundell

Appointed District Motive Power Superintendent, Colwick, Eastern Region, British Railways

Mr. O. R. Smart

Appointed Assistant Commercial Superintendent (Passenger), Eastern Region, British Railways

Mr. J. W. Dunger

Assistant Commercial Superintendent, Eastern Region, British Railways, 1946-53

Mr. J. Blundell, M.I.Mech.E., M.I.Loco.E., District Motive Power Superintendent, Peterborough, Eastern Region, British Railways, who, as recorded in our October 23 issue, has been appointed District Motive Power Superintendent, Colwick, was educated at Birkenhead Grammar School and Sedberg School. He entered the service of the Great Central Railway as a special apprentice at Gorton Works in February, 1919, following active service in the 1914-18 war. Following technical training, Mr. Blundell was appointed Assistant to District Locomotive Superintendent, Sheffield, in October, 1922. He became Locomotive Depot Superintendent, Wrexham, in April, 1924, and, in July, 1925, he was appointed to the corresponding position at Stockport. Mr. Blundell went to Neasden in November, 1926, as Assistant to District Locomotive Superintendent, and was appointed Locomotive Depot Superintendent, Bradford, in August 1930, where he remained until August, 1938, when he became Locomotive Depot Superintendent at March. Having held a commission in the Royal Engineers Supplementary Reserve Railway Operating Company since 1927, Mr. Blundell was called up for active service in the 1939-45 war in August, 1939, and served overseas. After demobilisation he resumed railway service in his former position in January, 1946, remaining at March until June of the same year, when he was appointed District Locomotive Superintendent, Peterborough.

Mr. O. R. Smart, Assistant Commercial Superintendent (Passenger-General), Eastern Region, British Railways, who, as recorded in our November 6 issue, has been appointed Assistant Commercial Superintendent (Passenger), Eastern Region, with effect from November 2, entered the service of the North Eastern Railway in 1920 as a clerk. He served at stations, district offices and headquarters until his appointment to a Traffic Apprenticeship in 1929. He has since held appointments in the District Goods Manager's Office, Newcastle, in the office of the Chief General Manager of the London & North Eastern Railway, Kings Cross, and at York as an Assistant Traffic Regulating Officer in the organisation set up specially to deal with wartime traffic needs. He was appointed Assistant District Goods Manager, Middlesbrough, in February, 1942, and transferred to the post of Assistant Mineral Manager, Doncaster, in October, 1947. Since January, 1949, Mr. Smart has held the post of Assistant Commercial Superintendent (Passenger—General) in the Office of the Commercial Superintendent, Eastern Region, and he now extends the range of his activities to cover, in the capacity of Assistant Commercial Superintendent (Passenger), all commercial passenger matters in the Eastern Region.

Mr. J. W. Dunger, O.B.E., Assistant Commercial Superintendent (Passenger-Train Services), Eastern Region, who retired on October 31, 1953, has completed 50 years of railway service. Mr. Dunger joined the Great Northern Railway in 1903 as a clerk and served at various stations and offices in the London and Lincolnshire districts until 1915, when he joined H.M. Forces. He saw commissioned service in France and Flanders from 1916 to 1919. On his return, he was appointed to the office of the Superintendent of the Line, Great Northern Railway, and, in 1923, was transferred to the personal staff of the Passenger Manager, Southern Area, London & North Eastern Railway. As a member of the L.N.E.R. All-line Passenger Train Sub-Committee from 1923 to 1947, Mr. Dunger was associated with all the major improvements to passenger train services between Kings Cross and the West Riding and Scotland. He was appointed Assistant to Passenger Manager (Train Services), Southern Area, in 1946, and since 1947 he has been concerned with the commercial aspect of Eastern Region passenger train services, timetables, excursions and special traffic business. In 1947 he was appointed Chairman of the R.E. Ad-hoc Committee on Public Timetables. His office was redesignated Assistant Commercial Superintendent (Train Services—Passenger) in 1948. Mr. Dunger has been responsible to the Commercial Superintendent, Eastern Region, for making the arrangements in connection with the running of the Royal train and for journeys of other members of the Royal Household. He was awarded the Medialle Royal de Récompense (First Class with Crown) by H.M. the King of Denmark in 1951.

Since our November 6 issue was published, in which the departure from Melbourne for the U.S.A. of Mr. C. V. H. McDonald, Assistant Chief Electrical Engineer, and Mr. J. Butterworth, Rolling Stock Engineer, both of the Victorian Railways, was reported, we have learned with regret that the aeroplane accident which occurred on October 29 involved the aircraft in which these two railway officers were travelling. Both Mr. McDonald and Mr. Butterworth lost their lives.

Mr. A. Endicott, M.B.E., F.R.I.C.S., Chief Estate & Rating Surveyor, British Railways, British Transport Commission, who, as recorded in our August 21 issue, was proposing to retire on December 31, will continue in his present post for a time.

Mr. C. H. Hewison, Head Office Inspector, Motive Power Superintendent's Office, Eastern Region, British Railways, has been appointed a Railway Employment Inspector at the Ministry of Transport & Civil Aviation. He took up his appointment on November 9.

Field Marshal Sir William Slim, formerly Deputy Chairman of the Railway Executive, and now Governor General of Australia, who has been a member of the Institute of Transport since 1948, has transferred his membership to the New South Wales section of the Institute.

Mr. C. R. Stewart, Assistant Chief Civil Engineer, Western Australian Government Railways, has been appointed an Associate Member of the Institute.

We regret to record the death, on November 5, of Mr. G. H. Ormerod, J.P., formerly Chairman, Assam Bengal Railway. The funeral service took place at Hastings on November 11, followed by cremation at Charing.

Mr. R. A. Liddle, Superintendent Engineer, Canadian Pacific Steamships, at Gladstone Dock, Liverpool, has retired after 43 years of service. He is succeeded by Mr. T. S. Hill.

Mr. A. Leo Sauve, General Agent for the Passenger Department, Ottawa, Canadian Pacific Railway, has retired after 47 years of service. He is succeeded by Mr. C. L. Burpee, District Passenger Agent, Victoria, B.C.

Mr. L. A. Raymond, of Toronto, has been appointed General Superintendent of Communications, Eastern Region, Canadian Pacific Railway, in succession to Mr. L. E. Hamson, who has been appointed Assistant General Manager of the department.

The following transfers in the Hotel Department of Canadian National Railways are announced:—

Mr. A. H. Paterson, Manager of the Newfoundland Hotel at St. John's becomes Manager of the Prince Arthur Hotel at Port Arthur, Ont. Mr. W. Gordon Foster replaces Mr. Paterson at the Newfoundland Hotel and is succeeded as Manager of the Charlottetown Hotel at Charlottetown, P.E.I. by Mr. Harold L. Morgan, who relinquishes the post of Manager at the Prince Arthur Hotel.

The following senior changes in the Passenger Department of the Canadian National Railways are announced:—

Mr. A. P. Lait, Passenger Traffic Manager, becomes Assistant General Passenger Traffic Manager.

Mr. J. N. Vincent, Assistant Passenger Traffic Manager, has been appointed Manager of the Passenger Service Bureau.

Mr. W. E. McCall, Assistant Manager of the Passenger Service Bureau, becomes Assistant Passenger Traffic Manager.

Mr. J. D. Corkery, Acting Freight Agent, Canadian National Railways, has been appointed Freight Agent at Saint John, N.B., Moncton Division, succeeding the late Mr. G. C. Elliott.

The following notifications appeared in the Supplement dated November 3 to *The London Gazette* of October 30 under the heading of Territorial Army—Engineer & Railway Staff Corps:—

Lt.-Colonel P. Croom-Johnson, C.B.E., M.I.C.E. (48307) resigns his commission, October 6, 1953, retaining the rank of Lt.-Colonel.

The undermentioned Majors to be Lt.-Colonels, October 6, 1953:—

F. M. Fuller, O.B.E., B.Sc., M.Inst.C.E. (68704).

E. S. Cox, M.I.Mech.E. (401030).

S. W. Smart, O.B.E. (401034).

Major J. Ratter, C.B.E., B.Sc., M.I.C.E. (50800) from Reserve of Officers, to be Major, October 6, 1953, with seniority September 26, 1947.

Major F. W. Abraham (401028) resigns his commission, October 6, 1953.

The undermentioned to be Majors, October 6, 1953:—

Kenneth John Cook, O.B.E., M.I.Mech.E. (431846).

John Holden Fraser, B.Sc., A.M.I.C.E. (431848).

The following is an extract from the Supplement dated November 3 to *The London Gazette* of October 30:—

The Queen has been graciously pleased to confer the award of the Army Emergency Reserve Decoration upon the following officers:—

Commands and Staff:

Colonel B. M. Strouts, M.B.E. (62916).

Colonel M. B. Thomas (40573).

Colonel R. Thompson, O.B.E., M.I.Loco.E., A.D.C. (33231).

Corps of Royal Engineers:

Lt.-Colonel & Bt. Colonel (Hon. Brigadier) W. E. Blakey, M.B.E., M.M. (31443) Retired.

Lt.-Colonel (Hon. Colonel) N. McK. Jesper, D.S.O., O.B.E., M.C. (33297) Retired.

Lt.-Colonel (Hon. Colonel) L. E. Marr, O.B.E. (33298) Retired.

Major (Hon. Lt.-Colonel) R. R. M. Barr (75441).

Major (Hon. Lt.-Colonel) A. N. Butland, O.B.E., B.Sc.(Eng.) (52760).

Major (Hon. Lt.-Colonel) A. H. Cantrell (42447).

Major E. C. Cookson, B.Sc. (Eng.), M.I.C.E. (33211), Retired.

Major (Hon. Colonel) G. W. Davies, O.B.E., M.A. (91462).

Major (Hon. Lt.-Colonel) W. B. Draper (97335), Retired.

Major (Hon. Colonel) H. W. Ellis (40952).

Major (Hon. Colonel) D. S. Hart, O.B.E. (47142).

Major J. W. Henderson, B.Sc. (Eng.), M.I.C.E. (63798).

Major (Hon. Lt.-Colonel) G. F. Huskisson (113002).

Major (Hon. Colonel) B. X. Jessop (94590).

Major (Hon. Colonel) J. Ratter, C.B.E., B.Sc. (50800).

Major (Hon. Lt.-Colonel) H. F. Sanderson (32146), Retired.

Major (Hon. Colonel) L. S. Sanson (37005).

Major W. J. H. Stanier (76508).

The Transportation Club

A dinner was held at the Tranportation Club, S.W.1, on Wednesday, November 4. Among those present were:—

The Rt. Hon. A. T. Lennox-Boyd, M.P., President, Major-General G. S. Szlumper, C.B.E., T.D., Retiring Chairman, K. W. C. Grand, New Chairman.

Messrs. R. A. Beckett, D. S. Bennett, J. Douglas Black, A. J. Boldero, Colonel A. C. Bonnaffon, Sir Archibald J. Boyd, V. Bridgen, Colonel P. M. Brooke-Hitching, F. L. Castle, C. M. Cock, B. W. C. Cooke, Norman Crump, S. R. Devlin, A. A. M. Durrant, Harold Elliott, G. E. Embleton, Capt. B. C. Frost, R. Gresley, R. H. Hacker, A. E. Hammett, F. D. M. Harding, S. G. Hearn, K. A. Henderson, C. P. Hopkins, J. Matthews, James Montgomery, E. J. Morris, M. D. Morrissey, T. W. Royle, C. E. R. Sherrington, G. Sutton, A. G. Tofield, Maurice Vignon, C. C. H. Wade, G. M. Warren W. Cyril Williams, H. Wilmot, Lt.-Colonel K. R. N. Speir.

Mr. E. W. Spannhake, has been appointed Director of Engineering & Research, the Tourneau-Westinghouse Company, Peoria, Illinois.

Mr. P. Rhodes, London Area Manager, Hoffman Manufacturing Co. Ltd., is retiring on December 31, after 32 years of service with the company. He will be succeeded by his deputy, Mr. S. G. M. Shallard, M.B.E., A.M.I.Mech.E.

A baronetcy has been conferred upon Sir Rupert de la Bère on the occasion of his retirement from the office of Lord Mayor of London. Sir Rupert de la Bère is Managing Director & Deputy Chairman of Proprietors of Hay's Wharf Limited.

Mr. H. W. Wilson, Manager of the Southampton branch of the General Electric Co. Ltd., has been appointed an assistant to Mr. W. J. Bird, London Sales Manager of the company. He is succeeded at Southampton by Mr. D. E. Kidner.

Mr. G. C. Brinkworth, General Manager of the Gloucester Railway Carriage & Wagon Co. Ltd., having reached retiring age, will relinquish his appointment on December 31. He will be succeeded by Mr. C. Leslie Smith.

At the Annual General Meeting of the British Standards Institution held on October 29, at British Standards House, 2, Park Street, W.1, Sir Roger Duncalfe was elected President of the British Standards Institution succeeding Viscount Waverley.

Mr. W. J. Foster has been appointed a Director of Coventry Gauge & Tool Company.

Mr. B. J. Bevan, Manager of the Singaport branch, Thos. Cook & Son, Limited, has retired.

Mr. Paul W. Redway, Sales Manager of Skinningrove Iron Co. Ltd., has been appointed a Director.

Mr. J. T. Fleming, Works General Manager, North British Locomotive Co. Ltd., has been appointed a Director of the company.

Mr. E. N. Robinson, Deputy Chairman of A. Reyrolle & Co. Ltd., has been appointed to the board of C. A. Parsons & Co. Ltd.

Mr. A. S. Jenkinson, Foreign Exchange dealer for Thos Cook & Son, has retired after 51 years of service. He has been succeeded by Mr. S. R. Sharp.

Mr. James Black, M.B.E., a member of the technical staff of the North British Locomotive Co. Ltd., Glasgow, has retired after 59 years of service with the company.

Thos. Cook & Son (Continental & Overseas) Limited, has opened an office at Calgary, Alberta. Mr. John Curtis McKee, from the Montreal office, has been appointed Manager.

Mr. J. Holmes has been appointed Sales Manager of Thos. Storey (Engineers) Limited, of Stockport. Mr. Holmes was formerly Export Manager of Thos. W. Ward Limited, of Sheffield.

The Rt. Hon. Lord Bilsland, M.C., D.L., and Mr. J. W. Beck have been elected Directors of John Brown & Co. Ltd. Mr. Alex Grieve, A.C.A., Assistant Secretary, has been appointed Secretary of the company.

Mr. R. A. Kirk, Manager of Thos. Cook & Son's office in Kendal Milne's Store, Manchester, has been appointed Personal Assistant to Mr. James Maxwell, Cook's General Manager. Mr. Frank Harvey, Senior Booking Clerk at Rochdale, becomes Manager at the Kendal Milne office.

We regret to record the death on November 4, after a long illness, of Mr. J. W. Massey, Chief London Inspector to Messrs. Livesey & Henderson, 1899-1952. Mr. Massey was born in Rochdale in 1872 and educated in London and Birmingham. In 1889 he joined Tangyes Limited, where he worked until 1893. He then spent a few months with Kitson & Co. Ltd., at Leeds, joining Messrs. Livesey, Son & Henderson in 1893 in the capacity of Assistant Inspector in Birmingham under his father, Mr. J. P. Massey. In 1899 he succeeded his father as Chief London Inspector, remaining in that post except for a period of 15 months in 1911-12, when he was inspecting for his firm in Belgium, until his retirement in 1952.

XUM

British Transport Commission Statistics (Period No. 9)

Summary of the principal statistics for the four-week period ending September 6

STAFF

—	B.T.C. Head Office	British Railways	London Transport	British Road Services	Road Passenger (Provincial)	Hotels & Catering	Ships & Marine	Inland Waterways	Docks, Harbours, Wharves	Railway Clearing House	Commercial Advertisement	Legal	Films	Total
Number ...	277	603,048	96,157	69,355	62,663	16,818	6,417	4,711	20,990	525	199	339	40	881,539

BRITISH TRANSPORT COMMISSION TRAFFIC RECEIPTS

—	Four weeks to September 6		Aggregate for 36 weeks	
	1953	1952	1953	1952
	£000	£000	£000	£000
British Railways—				
Passengers	10,721	10,689	82,675	80,477
Parcels, etc., by passenger train	3,042	2,787	26,210	24,419
Merchandise	7,582	7,615	71,822	71,211
Minerals	3,349	3,087	30,795	28,288
Coal & coke	8,067	7,260	73,524	68,610
Livestock	251	264	1,468	1,227
Total British Railways	33,012	31,702	286,494	274,232
British Railways C. & D.. etc. ...	881	843	7,962	7,812
British Road Services	5,980	5,762	53,439	52,273
Provincial & Scottish Buses	4,859	4,674	35,159	33,579
London Transport—				
Railways	1,347	1,372	12,326	12,264
Buses & coaches	3,293	3,251	27,898	27,089
Trolleybuses and trams	716	723	6,270	6,634
Total London Transport	5,356	5,346	46,494	45,987
Ships	1,428	1,523	8,440	8,609
Inland Waterways : Carrying ...	66	75	623	615
Total Passengers	21,801	21,646	168,606	164,351
Total Freight, Parcels & Mails ...	29,781	28,279	270,005	258,756
Inland Waterways : Tolls, etc. ...	102	102	937	919
Docks, Harbours, etc.	1,360	1,239	11,455	11,170
Hotels & Catering—				
Hotels	466	466	3,873	3,939
Restaurant cars	256	261	2,075	2,063
Station refreshment rooms ...	744	680	5,864	5,303
Total Hotels & Catering	1,466	1,407	11,812	11,305
TOTAL	54,510	52,673	462,815	446,501

LONDON TRANSPORT

—	Passenger journeys	Inc. or dec. per cent over 1952	Car miles	Inc. or dec. per cent over 1952
	000		000	
Railways	41,023	—1·2	16,426	—2·5
Buses & coaches	221,590	—2·7	27,720	—0·8
Trolleybuses	56,227	—3·1	5,752	—1·2
Total	318,840	—2·6	49,898	—1·4

INLAND WATERWAYS

Tonnage of traffic and ton miles

—	Tonnage	Inc. or dec. per cent over 1952	Ton miles	Inc. or dec. per cent over 1952
	000		000	
Coal, coke, patent fuel & peat	539	+20·6	8,063	+20·6
Liquids in bulk	138	— 4·3	3,667	—11·6
General merchandise	305	— 4·9	4,401	—15·8
Total	982	+ 7·7	16,131	+ 0·4

BRITISH RAILWAYS

Rolling Stock Position

—	Operating stock	Number under repair	Available operating stock	Available stock in 1952
Locomotives	18,665	3,170	15,495	15,583
Coaching vehicles	57,160	4,960	52,200	52,595
Freight wagons...	1,120,886	89,353	1,031,533	1,020,744

BRITISH RAILWAYS

Passenger Journeys (Month of July, 1953)

Full fares	Excursions, cheap day, etc.	Other descriptions	Early morning and workmen	Season tickets	Total	Inc. or dec. per cent over 1952
24,412,000	26,712,000	4,954,000	15,402,000	18,779,000	90,269,000	+0·3

BRITISH RAILWAYS

Freight Tonnage Originating and Estimated Ton-Miles (Period No. 9)

—	Merchandise	Minerals	Coal & coke	Livestock	Total	Inc. or dec. per cent over 1952
	000	000	000	000	000	
Tons originating ...	3,563	4,832	12,941	103	21,439	+2·8
Ton-miles	485,764*	384,895	785,631	—	1,656,290	+2·8

* Includes livestock

BRITISH RAILWAYS (Period No. 9)

—	Total steam coaching train-miles	Total electric coaching train-miles	Total freight train-miles	Freight train-miles per train engine-hour	Net ton-miles per total engine-hour	Locomotive coal consumption	
						Total tons	Lb. per engine-mile
1953	16,213,000	3,916,000	10,622,000	9·08	612	994,000	57·9
1952	16,128,000	3,892,000	10,449,000	9·03	597	1,002,000	58·6

Retired Railway Officers' Society Luncheon

Sir William Stanier on former railway company loyalties: increased membership

The autumn luncheon of the Retired Officers' Society was held at the Criterion Restaurant, Piccadilly Circus, W.1, on November 10 under the chairmanship of Sir William Stanier, President. Among those present were:—

Members

Messrs. A. W. Arthurton, G. B. Barton, H. I. Bond, A. Bond, W. P. Bradbury, A. F. Bound, L. C. Brittlebank, F. S. Bridge, W. A. Brown, H. J. Burcham, A. C. F. Calladine, A. L. Castleman, O. Carslake, H. J. Comber, A. D. Cook, S. O. Cotton, F. H. Colebrook, F. E. Cox, W. R. Davies, J. T. Drinkwater, W. J. England, J. W. Enser, B. P. Fletcher, R. O. Griffiths, E. D. Grasett, H. J. Green, A. H. Grinling, H. J. Guest, H. H. Halliday, E. B. Hassall, G. Hickling, C. Johnstone, J. W. Kislingbury, J. H. Laundy, A. H. McMurdo, S. J. Marchant, E. W. Mauger, G. Morton, A. S. Mills, J. P. Milton, H. W. Moore, A. W. Norman, P. Nunn, W. M. Perts, J. N. Peck, W. H. J. Pyne, H. G. Rampling, H. E. Robarts, C. I. Routh, A. J. Rice, V. A. M. Robertson, Colonel H. Rudyard, Messrs. A. Ryan, W. Y. Sandeman, S. H. Scholes, F. H. Sedgwick, F. Smith, Sir William Stanier, Major General G. S. Szlumper, Messrs. J. G. Symes, H. E. Thompson, H. N. Trye, W. T. Venton, H. E. O. Wheeler, E. Wharton, J. R. Worrall.

Guests

Messrs. F. W. Abraham, R. I. D. Arthurton, Sir Michael Barrington-Ward, Messrs. F. E. Bailey, D. A. Bond, E. Boothroyd, R. W. Boorman, C. K. Bird, Lt.-Colonel Brooke-Hitching, Messrs. L. A. Callow, J. I. Campbell, W. R. Carslake, B. W. C. Cooke, W. H. Corney, H. J. Crane, L. W. Cox, C. R. Dashwood, Lt.-Colonel Davies, Messrs. L. Doughty, A. T. Edwards, E. Evans, V. Fenney, J. H. Fraser, D. Fraser, J. M. Fullerton, F. Gilbert, Sir Eric Gore-Browne, Messrs. J. Graham, J. S. Grant, K. W. C. Grand, F. Grant, F. Grundy, J. H. Guest, G. J. Harris, A. E. Hammett, H. Haigh, C. P. Hopkins, H. Holcroft, E. S. Hunt,

Messrs. R. W. Kerr, O. E. Kinsman, D. R. Lamb, H. C. Lang, T. J. Lynch, Sir Ronald Matthews, Messrs. A. I. Macmillan, W. H. Mortlock, P. S. Martin, W. H. F. Mepsted, C. F. Minett, A. B. Macleod, R. Norrish, J. G. Norton, A. J. Obersteg, G. E. Orton, S. E. Parkhouse, R. Paterson, C. T. Pelley, F. J. Perry, Dr. Graves Pierce, Messrs. J. Ratter, H. G. N. Read, L. S. Sanson, G. H. Searle, A. Shouler, R. Scarsbrook, Smart, R. Simpson, G. H. Skelton, A. W. Tait, J. Taylor-Thompson, J. C. Train, F. W. Tipton, W. H. Vine, J. W. Watkins, F. D. Wharton, W. E. Yates.

Sir William Stanier, in proposing the toast of the guests, said that he was sorry that Mr. Alan Lennox-Boyd, Minister of Transport, was unable to be present. He regretted also the absence of Sir Robert Burrows, Mr. John Elliot, Mr. David Blee, and Mr. W. P. Allen, but was pleased that Sir Ronald Matthews, Sir Eric Gore Brown, Sir Michael Barrington-Ward and Mr. J. C. L. Train were among the guests. He thought railways had lost something with the passing of the old company loyalties. The railwayman was proud of the railway on which he worked as the soldier was proud of the county regiment in which he served.

Sir Michael Barrington-Ward, replying, said that he also was sorry that the Minister of Transport, who was to have responded first to the toast, was not with them, and further said that although the Railway Executive had made mistakes, it had done some good work. He made an appeal to the B.T.C. that officers at 222, Marylebone Road, who had served loyally the defunct Railway Executive should be placed in positions where their attainments and capacities could be put to further good use. The Society should ask the Commission to look into this. In the company days the railway directors had taken an interest in all ranks of the staff and that spirit should continue.

Mr. C. K. Bird, Chief Regional Manager, British Railways, Eastern Region, proposing the toast of success to the Retired Railway Officers' Society, said that it was true that we certainly changed; indeed most of the company present even looked younger and less careworn. In railway service, he said, there were invariants whose permanent value remained unchanged. These qualities of "guts," hard work, loyalty and integrity, they saw these qualities in and learned them from the retired railway officers and would hand them on to their successors.

Mr. W. M. Perts, replying, said that the society had been founded in 1901 and therefore was already on the second leg of its centenary, though he could not forecast how many present that day would be there in the year 2001. In 1901 there were 20 members, today there were 181. This increase was surprising as their membership was drawn from a strictly limited circle. The present membership represented over 7,000 years of railway experience. He thought that they should adopt Mr. Alan Lennox-Boyd as their patron saint as by his actions he had been responsible for adding to their numbers.

The health of the Chairman was proposed by Mr. A. W. Norman, who said that Sir William Stanier's personality had made him many friends. He coupled the name of Lady Stanier with his toast. Sir William Stanier, replying, said he had always enjoyed his work and spoke of the inspiration of Churchward, under whom he had had the privilege of serving at Swindon, and to whom the railways owed a tremendous debt, in particular for his pioneer work on the long-stroke valve. Sir William Stanier spoke appreciatively of the excellent team who gave him their loyal support on the L.M.S. when he transferred from Swindon to Crewe as C.M.E. The old railways had given young men greater responsibilities than the British Transport Commission so far had done. It was important that the Regions should have an opportunity for experimental development, otherwise there would be stagnation instead of progress.

Institution of Railway Signal Engineers' Annual Dinner

Co-operation with the Institution of Locomotive Engineers on study of automatic train control

The annual dinner and dance of the Institution of Railway Signal Engineers was held on October 23 at the Rembrandt Hotel, London. The chair was taken by Mr. T. Austin, the President, who was accompanied by Mrs. Austin. The guests of the Institution were Mr. R. C. Bond, President of the Institution of Locomotive Engineers, Mr. W. K. Brasher, Secretary of the Institution of Electrical Engineers, and Sir Harry Railing, Chairman, General Electric Co. Ltd. Others present included:—

Mr. W. J. A. Sykes, Assistant Electrical Engineer, Southern Region; Dr. Karl Oehler, Chief Technical Director, Integra A.G., Wallisellen, Zurich, a Member, and Mr. G. T. Hart, Secretary, Institution of Locomotive Engineers.

Mr. Austin was supported by:—

Messrs. J. H. Fraser and E. G. Brentnall, Vice-Presidents; Messrs. A. Moss, F. Horler, F. L. Castle, S. Williams, T. S. Lascelles and R. Dell, Past Presidents;

Messrs. C. G. Darbyshire, F. G. Hathaway, W. Owen, D. G. Shipp and J. C. Kubale, Members of Council; Mr. G. J. Dickin, Honorary General Secretary;

Mr. B. Reynolds, Honorary Treasurer, and Mr. P. Guyatt, Honorary Secretary, General Purposes Committee, responsible for the arrangements.

Mr. R. C. Bond, proposing the toast of the Institution, said that the Institution of Railway Signal Engineers and the Institution of Locomotive Engineers both were associations of professional engineers of which railwaymen formed a large proportion of the membership. Both were founded within a year of each other over 40 years ago, with the same broad objective of advancing the science and practice of their particular railway engineering activity. The Institution of Railway Signal Engineers could claim that much of the progress in railway signalling was due to its making more widely known, particularly to its younger members, the latest advances in the profession. The ways in which they achieved their ultimate object, to deliver to the man on the footplate an unmistakable message, were greatly improved.

Colour-light signals, he added, had been introduced and carefully positioned so that drivers were able to read them without interference.

A.T.C.

At present the two Institutions were co-operating on A.T.C. and he was sure that the opportunity that both would have of advancing the science of railway engineering would be considerable.

Mr. Austin, replying, said their membership was a happy blend of user and manufacturer. Relations with the Institution of Locomotive Engineers were very cordial; they had had joint meetings. He looked forward to other such meetings. He thanked the Secretary and Members of the General Purposes Committee for the arrangements made for the gathering, and the officers of the Institution for their work.

Mr. Fraser, proposing the toast of the visitors, welcomed Sir Harry Railing. Members would long remember the visit paid during their summer meeting to the G.E.C. works at Witton he said. He welcomed also Mr. R. C. Bond, who, he said, worked closely with them in many ways, and Mr. W. K. Brasher, for many years a friend of the Institution of Railway Signal Engineers.

Mr. Brasher said in reply that British

professional and technical societies had no equal in any country, and that that strength derived from the ready voluntary help all could command. The Institution had had many helpers over the years, an outstanding example being Mr. T. S. Lascelles.

Mr. Brentnall, in proposing the toast of the overseas members, said that they now had nearly 250 overseas members, resident in more than 25 countries.

Mr. R. W. H. Seymour, Signal and Telegraph Engineer, Malayan Railway, referred in his reply to the usefulness of the copies of papers sent out to overseas members by the parent body.

Sir Harry Railing proposed the toast of the President. Drawing up a specification for a president, Sir Harry Railing said that the Institution had always been lucky, and was lucky in its present President. He had joined a good railway company and had learned everything about what was needed for getting a good performance and also that the cheapest job at first was not the cheapest in the end; secondly, he had joined a good manufacturing company, where he learned about design and manufacture; thirdly, he had remained young and adaptable, up to date in electrical besides mechanical engineering. When the guaranteed period of one year was over, they would be able to say that he had stood up fully to the specification and requirements.

Eastern Region Exhibition of Arts & Crafts

Mr. C. K. Bird, Chief Regional Manager, Eastern Region, on November 9 opened the British Railways Staff Association (Eastern Region) Exhibition of Arts & Crafts held this week in the Stratford Works canteen. The 500 entries covered oil paintings, water colours, photographs, metalwork, models, woodwork and needlework, with a juvenile section.

Mr. J. H. P. Lloyd, Locomotive Works Manager, Stratford, welcoming the visitors, stressed the keenness and interest of railwaymen in producing pictures and handicrafts, and pointed out that railway servants and their families were an important cross-section of the community.

Mr. C. K. Bird said that railwaymen were glad to add to the fulness of their own lives and to that of others.

Alderman W. A. Gillman, Mayor of West Ham, expressed his pleasure that the exhibition this year was held in Stratford, in his County Borough.

The four adjudicators, who included Mr. G. C. Gold, Assistant Mechanical & Electrical Engineer, Eastern Region (metalwork, models, and so on), and Mr. L. Reeves, Carriage & Wagon Engineer, Doncaster Works (woodwork), then made their reports, after which Mr. Bird declared the exhibition open.

Mr. W. E. Blakey, Assistant Commercial Superintendent, Eastern Region, apologised for the absence of Mr. C. S. McLeod, Regional Staff Officer, and moved a vote of thanks to those who had made the exhibition a success.

Others present included the following officers of the Eastern Region:—

Messrs. A. J. White, Assistant Chief Regional Manager; M. B. Thomas, Public Relations & Publicity Officer; T. R. Hawkes, Accountant; A. G. Dawson, Treasurer; A. L. Crewe, Assistant Regional Staff Officer; Dr. J. S. Binning, Assistant Regional Medical Officer;

Messrs. A. R. Dunbar, Divisional Operating Superintendent and G. F. Fiennes, Assistant Divisional Operating Superintendent (Eastern); J. Royston, Assistant Divisional Operating Superintendent (Western); B. Adkinson, Motive Power Superintendent, and J. S. Jones, Assistant Motive Power Superintendent; A. Moss, Signal & Telecommunications Engineer; J. P. Hippisley, Assistant Road Motor Engineer (who contributed two models); and A. T. S. Rayner, Welfare Officer.

Parliamentary Notes

Nationalisation of Public Services

Sir Winston Churchill (Prime Minister) in the debate on the address in reply to the Queen's speech on November 3 said that it might sometimes be necessary for Governments to undo each other's work, but this should be an exception.

The Conservative Party was opposed to nationalisation of industry and, to a lesser extent, to nationalisation of services, and abhorred the fallacy of nationalisation for nationalisation's sake. But where they were preserving it, as in the railways, they had done and were doing their utmost to make a success of it, even thought this might mar the symmetry of party recrimination. It was only where they believed that a measure of nationalisation was a real hindrance to the national life that the policy had been revised, though they were generally opposed to the principle.

New Chairman of B.T.C.

Sir Winston Churchill went on to express the hope that the appointment of Sir Brian Robertson "as head of British Railways" would be distinguished not only by marked improvements in the running, but also by a feeling among the railwaymen that an element of personal contact and leadership would be developed between the management and the men so that healthy pride might play its part in the success of these national services.

Railway Workers and Factory Acts

Mrs. Eirene White (Flint E.—Lab.) said many railway workers were not covered by the Factory Acts, and were not protected in their working conditions except through what they could themselves obtain through negotiation.

Although, since nationalisation, conditions had improved, sanitary arrangements were non-existent in many cases or far below the standard to be expected in any other industrial employment of which she knew. Canteen arrangements had, she believed, improved.

Nevertheless the safeguarding of general conditions for comfort, health, and safety in stations and running sheds, for example, and for workers in isolated spots, such as signalmen and gangers, was the responsibility of that House. The unions had done much, but would welcome assistance from the House in supporting them.

Reducing Road Traffic Density

Mr. Geoffrey Wilson (Truro—C.) said the Government had proposed in the Transport Act to do something about decentralising administration of the railways and remove restrictions on their charges. They had denationalised a certain section of road haulage. If any of those measures would lead to a cheapening of public services of the provision of more convenient services, that would automatically reduce the density of "C"-licence traffic on the roads.

There should be legislative measures to reduce the density of traffic, he added, by encouraging cheaper or more convenient services both by road and rail. There might be additional capital provided for improvements on the railways, or more competition among the road services to encourage fare reductions as had already happened in some districts.

Railway Unions and Increased Output

Mr. Norman Smith (Nottingham S.—Lab.) emphasised the importance of getting the railways unions interested in output. He had never heard railwaymen discussing matters such as diesel traction—only wages and conditions. The trade union was concerned with the shortest possible hours for the highest possible wages and not in increased output. That was very serious; unless they got working class people interested in increased output, this country would go down.

Staff & Labour Matters

Railway Wage Claim

The hearing before the Railway Staff National Tribunal of the claims for a 15 per cent increase in rates of pay of railway salaried and conciliation staff began on November 9. Sir John Forster, Q.C., was Chairman of the Tribunal and the other members were Sir Percy Mills, nominated by the British Transport Commission, and Sir Luke Fawcett, nominated by the three railway trade unions, the N.U.R., A.S.L.E.F., and T.S.S.A.

Mr. J. S. Campbell, General Secretary of the N.U.R., said that there was complete agreement between the three unions on the application. There was intense dissatisfaction amongst railwaymen that their rates of pay had fallen behind the level of workers in industry generally. It had been necessary to make the claim because of the continuing failure of wages to keep pace with prices and the steady lowering of the standard of life.

There were four principal reasons for the claim, said Mr. Campbell: (1) The cost of living; (2) comparison with rates in outside industries; (3) the right of railwaymen to share in the financial saving resulting from economy and efficiency measures; and (4) recognition of the increased productive effort.

Mr. J. G. Baty, General Secretary of the A.S.L.E.F., said that existing rates of pay were inadequate having regard to the nature of the duties of footplate staff and the hard work, responsibility, and social hardship involved. The rates were far too low to bear a correct relationship to the general level of wages in outside industry. He also referred to the continued rise in the cost of living.

Mr. W. J. P. Webber, General Secretary of the T.S.S.A., said the claim was based on: (1) The fact that increases in railway salary rates had not kept pace with the increase in cost of living since before the war, or with the increase since February 1, 1948 which was the operative date of the settlement in regard to salary differentials arising out of the June, 1947, Court of Inquiry; (2) the percentage increases over prewar for the railway salaried staffs were less than those for workers generally and for other workers on the railways;

No Incentive to Accept Promotion

(3) The present differentials between the grades were inadequate for a reasonable incentive to accept promotion; (4) railway salaries still were below those for other nationalised industries and for other public services; (5) in view of the importance of the railways to the nation it was

essential that the rates of pay of railway salaried staffs be adequate.

Case for B.T.C.

Mr. W. P. Allen, Chief of Establishment & Staff, British Transport Commission, said the present application had been made within nine month of the Tribunal's last decision under which the rates of pay of railway salaried and conciliation staff were increased by 7s. a week. It was the fourth major wage claim since July 1950. The Commission could not face any further increase in the wages and salaries bill without recourse to a further increase in fares and charges in order to meet the addition cost involved.

The approximate annual cost of the claims before the tribunal was £31,000,000, and the cost of meeting all the claims which had been submitted on behalf of railway staff would mean an increase of £39,000,000 a year to the wages bill. The financial position was such that the unions' claims could not be met either in whole or in part.

Inability to Provide for Reserves

In the five years to the end of 1952, he added, the Commission had been unable to make provision for general or replacement reserves and at that date had an accumulated deficit of £31,000,000. There had been a considerable decline in the net traffic receipts of British Railways since the last award of the Tribunal and all the trends indicated that this decline would continue in 1954. Considerable economies in expenditure already had been secured, but the scope for further improvement was limited in the present circumstances of restricted capital expenditure, and the attitude of the staff to changes in working procedures. The important point was that any increase in present rates of pay would necessitate corresponding adjustments in fares and charges.

Small Rise in Cost of Living

Dealing with the cost of living, Mr. Allen said that since the last decision of the Railway Staff National Tribunal there had been an increase only of three points, or 2.2 per cent, which did not justify any claim for an increase in pay, let alone a claim for an increase of 15 per cent.

Mr. Allen also contended that railway pay was reasonable, and quoted figures comparing the position with changes in the cost of living and with rates of pay in outside industry.

The hearing was still proceeding as we closed for press.

Engineering Workers' Wages

At a meeting in London on November 5 the Engineering employers again rejected the claim of the C.S.E.U. for an increase of 15 per cent in rates of pay of engineering workers. The employers contended that earnings had more than kept pace with rises in the cost of living and that increased wages would mean increased prices which would reduce sales and lead to unemployment.

The employers' decision was to be considered by the Executive of the C.S.E.U. on November 12.

Proposed Reduction in Busmen's Wages

At a meeting of the National Council for the Omnibus Industry on November 5 further consideration was give to a claim from the employers' side to be allowed to reduce wages by 7s. 6d. a week. It has been decided to refer the employers' claim to a Conciliation Committee under the Constitution of the Council.

The National Council at their meeting on November 5 failed to reach agreement on an earlier claim by the T.G.W.U. for a substantial increase in pay.

Reorganisation of the Jura Railways

The towns and villages in the Jura mountains of Switzerland are served by an extensive system of railways and postal coach routes. The railways, constructed and operated by six different companies, and including both metre-gauge and standard gauge lines, were absorbed by the newly-formed Chemins de fer du Jura in 1944.

In 1950, a popular referendum resulted in an overwhelming vote in favour of a contribution by the Canton of Berne to a large-scale modernisation scheme. This has been completed by the re-opening, on October 3, of the Saignelégier-Glovelier line, which had been replaced temporarily by a postal coach route.

The complete renewal scheme has entailed the conversion of most of the system to a uniformly equipped metre-gauge system of 75 km. long, electrified at 1,500 V. d.c., comprising La Chaux-de-Fonds-Saignelégier-Glovelier and Noirmont-Tavannes lines. The line from Porrentruy to Bonfol, which has no physical connection with the metre-gauge system, has been retained as a standard-gauge line and electrified at 15,000 V., 16⅔-cycles, like the Swiss Federal Railways with which the Bonfol branch connects at Porrentruy.

The most important civil engineering work was the alteration of the 24-km. Saignelégier-Glovelier line from standard to metre gauge. The rails were reused and welded into 24-m. lengths. The curves were kept to a minimum radius of 10 ch. From Glovelier, the line line climbs steadily all the way to Saignelégier at a maximum gradient of 1 in 40. At one point, reversal is necessary. The reconstructed layout at Glovelier includes equipment for mounting standard-gauge wagons on narrow-gauge bogies. Four road crossings have been replaced by bridges.

The adoption of 1,500 V. d.c. throughout required the reconstruction of the old 1,200 V. traction equipment on the Noirmont-Tavannes line which was, in any case, due for renewal. More than 1,700 new wooden masts and 200 masts consisting of broad-flange steel girders were erected. Current is taken from a 16,000 V., 50-cycle, supply through four substations.

Rolling Stock

Traffic on the standard-gauge Porrentruy-Bonfol line is hauled by two Bo-Bo mixed traffic locomotives. They are 65.9 m. overall, weigh 28·5 *tonnes* in working order, develop 345 h.p. at the one-hour rating, and have a maximum speed of 60 km.p.h. They are built by Schweizerische Lokomotiv und Maschinenfabrik, Winterthur, with electric equipment by Ateliers de Sécheron, Geneva. The rolling stock consists of three modernised passenger coaches, two vans and 15 wagons.

A more drastic renewal of rolling stock had to be carried out on the metre-gauge lines whose former stock was outdated. Only two locomotives and three motor coaches were retained.

The new metre-gauge stock consists of three luggage motor coaches, eight passenger motor coaches, six control trailers, 15 covered goods wagons and eight bogie frames to carry standard-gauge goods wagons all built by Schweizerische Industrie Gesellschaft, Neuhausen.

Contracts & Tenders

Robert Hyde & Son Limited has received a further order for 100 Athermos type axleboxes for wagons for the Sudan Government Railways.

The South African Railways & Harbours have placed a contract for 200 double-bogie goods brake vans for the 3 ft. 6 in. gauge with C. M. Hill & Co. (Engineers) Ltd., 44-45, Tower Hill, London, E.C.3, on behalf of its Belgian principals, S.A. des Ateliers de Construction de Familleureux.

British Railways, North Eastern Region, have placed the following contract:—

James W. Ellis & Co. Ltd., Newcastle: partial renewal of roof glazing, etc. (additional work), Newcastle Central Station

British Railways, London Midland Region, have placed the following contracts:—

Griggs & Son Ltd., London, S.W.1; reconstruction of Gospel Oak Station

Thomas Collier & Sons Ltd., Leigh, Lancs.: repairs to engine shed roof, smoke troughs and stacks at Walton-on-the-Hill Motive Power Depot

Wm. Titmas & Sons, London, N.W.1; general maintenance contract for a period of two years in respect of Euston House, Eversholt Street; Trainmen's Hostel, Polygon Road; Carlow Street Offices; Train Arrival Bureau, Euston Station

Leonard Fairclough Limited, Adlington, Lancs.; lengthening of bridge carrying Wednesbury Road over the railway between Walsall and Pleck for the West Midlands Gas Board

British Railways, Southern Region, have placed the following contracts:—

Aubrey Watson Limited, London, S.W.1: strengthening of abutment, Petworth Bridge, and reconstruction of St. Catherines Hill Bridge, Guildford

Winter & King Limited, Raynes Park: renovations at Clandon Station

Camden Tile & Mosaic Co. Ltd., London, N.7: works in connection with the enlargement of Grove Park Station

Clark & Fenn Limited, London, S.W.4; Henry Hope & Sons Limited, London, W.1; Best & Lloyd Limited, London, W.C.1: Hollis Bros. Ltd., London, E.C.1: works in connection with the enlargement of Grove Park Station

Hills (West Bromwich) Limited: ventilating shutter units with electric motor, etc., Eastleigh Carriage Works

Demolition & Construction Co. Ltd., London, S.W.1: construction of ten new track paralleling huts and alterations to substations

A. Bagnall & Sons Ltd., Uxbridge: renovations at Chelsfield Station

Carricks (London) Limited, London, W.11: supply and installation of Airheat heating and ventilating units, Eastleigh Locomotive Works, Brass and Light Plating Ships

Welding Constructions & Repairs Limited, London, S.E.7: supply of steelwork for Purley and South Croydon signalboxes

S. Antill & Company, London, S.E.13: repairs to viaducts, London Bridge to New Cross Gate, and Elephant & Castle to Loughborough Junction

The Special Register Information Service, Board of Trade, Export Services Branch, has been notified by the United Kingdom Trade Commissioner at Melbourne of two calls for tenders (Nos. 60050 and 60041) issued by the Victorian Railways Commissioners for the supply of:—

20 colour-light signals with supporting

brackets to give three aspects (red, yellow and green)

Six colour-light signals with supporting brackets to give two aspects (red and green)

100 indicators to specification with scale

or alternatively

100 indicators to specification with scale

100 axle-driven alternators to specification

100 connecting cables complete with plug, junction box and armouring to specification

100 wheel diameter compensators complete to specification

The closing date for the receipt of these tenders is November 25. Tenders should be addressed to the Secretary for Victorian Railways, Melbourne, C.1. One copy of the tender schedule and specifications for each tender is available for inspection by United Kingdom firms in Room 801 at the Branch, Lacon House, Theobalds Road, London, W.C.1. An additional copy of each specification is available on loan.

ELECTRICAL EXPORTS.—Last year the exports of the British electrical industry totalled £220,000,000 about 60 per cent of output, against £23,000,000 and 15 per cent in 1938. Overseas sales, however, have fallen off this year largely because of competition. Mr. D. Maxwell Buist, Export Director of the British Electrical & Allied Manufacturers' Association, has pointed out that competition is from both America and the Continent. To secure a footing in markets previously closed to them, European manufacturers are quoting extended credit terms, and cutting prices, while American producers are benefiting from the loans made by the World Bank for electrical equipment. Mr. Buist also wished to see some institution in the City to provide long-term credit facilities for overseas buyers.

Notes and News

Surveyor Required.—Applications are invited for the post of surveyor required for the construction staff, East African Railways & Harbours, for one tour of 30 to 48 months in the first instance. See Official Notices on page 559.

Technical Representative Required.—Permali Limited have a vacancy for a technical representative between 35 and 45 years of age to handle the sales of insulating points and other railway engineering parts. See Official Notices on page 559.

Vacancy for an Engineer.—Applications are invited for the post of engineer required by a firm of engineers in the Midlands, to take charge of department producing light railway permanent way, switches and crossings. See Official Notices on page 559.

Poyle Estate Halt.—The new halt to serve the trading estate at Poyle, Middlesex, on the West Drayton—Staines branch of the Western Region, to which reference was made on page 530 of last week's issue, is under construction and will not be opened for some months.

Diesel Railcars.—The theme of the illustrated talk to the Institute of Transport, Metropolitan Graduate & Student Society, on November 10 by Mr. B. Y. Williams was "Diesel railcars: is there justification for their extensive use in Great Britain?" The speaker maintained that many passenger services were unremunerative and that although some trimming was possible by withdrawing branch services, the position of railways as a public facility involved continuance of many unremunerative services. Diesel cars could satisfactorily cater for much of this traffic at a considerably reduced cost. Railway travel had fallen from 1,800 million originating journeys in 1920 to 988 in 1952, despite growth of the travel habit. The introduction of diesel cars was the only economic way, he said, of making services more attractive, so as to retain the present and create further business.

Gatwick Airport Scheme.—Announcing the terms of reference for a public inquiry into the Government plans for developing Gatwick airport, Mr. Alan Lennox-Boyd, Minister of Transport & Civil Aviation, stated on November 5 that British Railways proposed that the present Gatwick Airport Station be closed and Gatwick Racecourse Station altered and enlarged to serve the new airport.

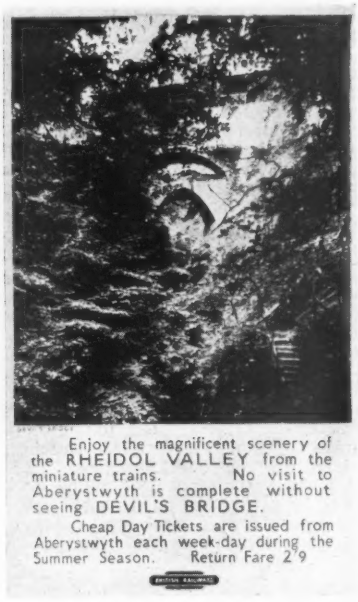
New Railcar Service to Germany.—A railcar service, second class only, will operate next summer between Ostend and Cologne, in connection with the 10 a.m. service from Victoria via Dover/Ostend. Arrival in Cologne will be at about 8.30 p.m. and in the return direction departure is from Cologne at 9.46 a.m., due Victoria arr. 8.50 p.m. Details will be announced later. This service was agreed at the International Timetable Conference at Athens last month.

October Pig Iron & Steel Production.—In October steel production was at a record level of 355,000 tons a week, compared with an average of 327,800 tons a week in October, 1952. Pig iron production also was at a record level, averaging 221,500 tons a week compared with 204,200 tons a week in October of last year. For the first ten months of this year steel production has averaged 336,300 tons a week compared with 306,100 tons a week in the corresponding period of 1952.

L.M.R. (London) Dramatic Society.—The Autumn production of the London Midland Region (London) Dramatic Society, "Playbill," by Terence Rattigan, was given at the Fortune Theatre, London, on November 5, 6, and 7. The Society, of which Mr. J. W. Watkins, Chief Regional Manager is President, celebrates its twenty-first birthday next year. In the first part of "Playbill," "The Browning Version," which was produced by Mr. Richard Coleby, there were notable performances by Miss Marjorie Webster as Millie Crocker-Harris, Mr. Robert Ayre as Crocker-Harris, and John Ahern as John Taplow. "Harlequinade," the second part produced by Mr. Jack Pegg, included outstanding acting by Mrs. Beckie Pass as Edna Selby and Mr. Jack Pegg as Arthur Gosport. On the opening night Mr. J. W. Watkins and Mr. R. A. Riddles attended, with many officers of the Region.

National College of Rubber Technology. In opening the new building of the National College of Rubber Technology in London on November 3, the Chairman of the Dunlop Rubber Co. Ltd., Lord Baillieu, said that the lack in Britain of a synthetic rubber industry was a weakness in our economy, and for which an answer must be found. The loss of our sources of supply of raw material from the Middle East, India, Malaya, and Indonesia would, he considered, effect our way of life, and would gravely imperil our defence. Mr. P. W. Howard, President of the Federation of British Rubber Manufacturers' Associations, said the industry was faced with a number of new synthetic materials, some of which they had adapted, while others were competitors of rubber itself. The

Vale of Rheidol Line in Posters


Enjoy the magnificent scenery of the RHEIDOL VALLEY from the miniature trains. No visit to Aberystwyth is complete without seeing DEVIL'S BRIDGE.
Cheap Day Tickets are issued from Aberystwyth each week-day during the Summer Season. Return Fare 2'9

Poster (left) produced by the London Midland in conjunction with the Western Region and the Welsh Tourist & Holidays Board, depicting the Vale of Rheidol Line amongst other attractions; (right) Western Region poster (see correspondence on page 538)

OFFICIAL NOTICES

The engagement of persons answering Situations Vacant advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 *inclusive or a woman aged* 18-59 *inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order,* 1952.

SURVEYOR required for the Construction Staff, EAST AFRICAN RAILWAYS AND HARBOURS, for one tour of 30 to 48 months in first instance. Commencing salary, etc., according to experience, fixed between £958 and £1,093 a year, plus a construction allowance up to 20 per cent of basic salary. Free passages and quarters. Liberal leave on full basic salary. Gratuity. Candidates should have had experience of traversing, triangulation, levelling, tacheometry, plotting and computing, setting out of embankments and cuttings, also measuring of earthworks. They must be capable of using all normal survey instruments. Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2B/29871/RA.

ENGINEER required by old-established Midland firm of Engineers. To take charge of department producing light Railway Permanent Way, Switches, Crossings, etc., knowledge of production methods essential. Salary commensurate with age, qualifications and experience. Staff Pension and Bonus schemes, permanent situation. Applications in writing, giving full details, to Box 265, W.B.G., 39, Cheapside, London, E.C.2.

FOR SALE 1938 Fowler 0-4-0 80/88 HP diesel loco. 4′ 8½″ gauge, 22 tons weight, 5′ 6″ wheel base 4 speeds F & R. Westinghouse air brakes dual control. This loco. has had little use and is offered at an attractive price.—W. H. COLLINGBOURNE & Co. LTD., 1481, Stratford Road, Birmingham, 28. 'Phone Shirley 3303.

FOR SALE: Platelayers Bogies for 4 ft. 8½ in. track-gauge in excellent condition. M.E. ENGINEERING LIMITED, 457 Finchley Road, London, N.W.3. Telephone: Hampstead 7481/7482/7483.

BOUND VOLUMES.—We can arrange for readers' copies to be bound in full cloth at a charge of 25*s.* per volume, post free. Send your copies to the SUBSCRIPTION DEPARTMENT, Tothill Press Limited, 33, Tothill Street, London, S.W.1.

DRAUGHTSMEN, junior, with some experience in the preparation of engineering drawings for reproduction. Good lettering essential. London area. Five-day week. Write, stating age, experience and salary required, to Box 2, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

PERMALI, LTD., have a vacancy for a technical Representative to handle the sales of well-known insulating joints and other railway engineering parts. The position offered is an extremely responsible one calling for first-class ability in both selling and assisting in the development of new applications. Preference will be given to applicants between the ages of 35-45 having a sound engineering training and experience in Signal or Permanent Way practice. The salary paid will be commensurate with the qualifications and experience of the successful applicant. Applications, giving full details of previous experience, should be addressed to The Secretary, Permali Limited, 125, Bristol Road, Gloucester.

N.E.R. HISTORY.—Twenty-Five Years of the North Eastern Railway, 1898-1922. By R. Bell, C.B.E., Assistant General Manager, N.E.R. and L.N.E.R. Companies, 1922-1943. Full cloth. Cr. 8vo. 87 pages. 10*s.* 6*d.*—*The Railway Gazette*, 33 Tothill Street, London, S.W.1

development of these materials, and the further expansion of the uses of natural rubber were essential to our prosperity.

British Railways Coal, Iron, and Steel Carryings.—British Railways' latest weekly coal, iron, and steel carryings all show an increase compared with the corresponding figures last year. Deep-mine and open-cast coal cleared during the 48 hr. ended 6 a.m. on November 9, amounted to 411,950 tons, bringing the week's total up to 3,296,570 tons; the corresponding figures in 1952 were 371,540 and 3,222,930 tons. During the week ended October 31, 231,041 tons of iron and steel from the principal steel works and 307,000 tons of iron ore were conveyed, compared with last year's figures of 221,697 and 305,000 tons respectively.

Recruiting Campaign for R.E. Transportation and Movements.—The headquarters of the Army Emergency Reserve, Royal Engineers (Transportation & Movement Control), Longmoor, is launching a publicity campaign to obtain volunteers for R.E. (Transportation), R.E. (Movements), and Royal Signals (Transportation) units. The campaign is to include advertising and articles in the Press; display of pamphlets and posters in canteens, workshops, and similar places on railway, dock, and canal property and on that of large firms concerned with transport; and poster displays in public places and presentation of slides on local cinema screens.

Cash Payment to United of Havana Stockholders.—Contract terms whereby the Cuban Government will pay $13,000,000 in cash to stockholders of the United Railways of Havana as a purchase price for that property have been made public in Cuba. The final documents will be signed in mid-November. The reports say that the money for the purchase and operating capital has been obtained through a loan from the Hanover Bank & Trust Company of New York at three per cent on a Cuban Government bond issue of $20,000,000 made last September 4. The Commission explained that the contract was signed in September, but not made public to prevent speculation.

Berne-Neuchâtel Railcars.—We are informed by the Swiss Industrial Company of Neuhausen Rhine Falls, Switzerland, that both the Berne-Neuchâtel Railway railcars referred to on page 379 of our October 2 issue were built at its own works. The electrical equipment for the two vehicles was supplied and erected by the Ateliers de Sécheron, of Geneva, but this latter company was not responsible for the mechanical construction of either railcar as was implied in our article.

Automatic Luggage Lockers at Kings Cross.—Forty-eight automatic luggage lockers are now in service at Kings Cross Station, Eastern Region. The lockers, which measure 18 in. high, 16¼ in. wide and 2 ft. 5 in. deep, are made of steel and fixed in units of eight. By placing sixpence in a slot a passenger obtains the key to a private locker in which he may deposit his luggage and withdraw it any time within 24 hrs.; after this period the luggage is removed to the left luggage office (where the passenger can claim it by producing the numbered key), so leaving the locker ready for the next depositor, the lock being changed in the meantime.

Special Trains for Women's Organisations.—The special restaurant car trains arranged thrice weekly by the North Eastern Region of British Railways last May, June, and July for women's organisations again proved successful. Seventy trains were run conveying 20,427 passengers with rail receipts of £27,581. Of these, 16 trains to London conveyed 6,143 passengers and earned £12,784, and 10 trains to Scottish destinations (other than Edinburgh) carried 2,947 passengers, with £3,328 receipts. In most cases road or steamer trips also were arranged. A programme for 1954 is being arranged, with new tours added and old ones modified.

Basic Foreign Travel Allowance Increase.—Mr. Jones Maxwell, General Manager of Thos. Cook & Son Limited, commented recently that it was a great pity that U.S.A. and Canada were not among countries for which a basic allowance was permitted. Politically it was important that our future leaders should get to know those countries well through travel. He looked forward to resumed tourist traffic with Iron Curtain countries but there was much preparatory work to do. The decision to increase the allowance to £50 was appreciated as a small step on the road to complete currency freedom. A slightly wider choice of Continental hotels became available; some would prolong their stay abroad and others use the extra allowance as spending money. It was good news for the winter sports enthusiast. The new allowance for Scandinavian countries would result in a much bigger winter sports traffic for Norway and Sweden. On the £40 allowance an all-time record number of Britons, more than one million, went to the Continent for their annual holiday in 1953. Now that the allowance had been increased to £50 the figure would possibly be higher next year.

Chamberlain Industries Limited: Appointment of Distributors.—Chamberlain Industries Limited has appointed Electricals Limited, of Newcastle-upon-Tyne, as main distributors and stockists for Staffa products, covering tube bending machinery, grinders and dust extractors, shop cranes, and industrial hydraulic service kits.

Midlands-South Wales Road Improvements.—It is likely that the Lord Lloyd Committee will recommend that a beginning shall be made next year on a 27-mile motorway from Bromsgrove to Upton-on-Severn, and a 20-mile spur to Ross-on-Wye, and improvements made to the existing roads from Upton-on-Severn to Bristol and from Gloucester to Cardiff and Swansea. These proposals are only part of a comprehensive scheme to develop Midlands and South Wales communications announced in 1946.

Withdrawal of Passenger Train Services from Chapeltown Central Branch.—On and from December 7, the regular passenger service between Sheffield Victoria and Barnsley Court House will be withdrawn and the following Eastern Region stations closed to passenger traffic: Meadow Hall, Grange Lane, Ecclesfield East, Chapeltown Central, Birdwell, and Dovecliffe. There are alternative passenger services at Wincobank and Brightside, Ecclesfield West, Chapeltown South, Wentworth, Elsecar & Hoyland, and Wombwell West stations on the Sheffield Midland-Barnsley Court House branch. Railway cartage services will continue to be available for parcels traffic.

Tube Investments Limited.—At their meeting on November 4 the directors of Tube Investments Limited considered the results of the group for the year ended July 31, 1953, and decided to recommend at the annual general meeting on December 9, 1953, a final dividend on the ordinary stock of 7½ per cent actual which, with the interim dividend paid of 7½ per cent, makes a rate for the year ended July 31, 1953, of 15 per cent. Trading profit after providing £1,586,324 for depreciation are £5,872,259 (£9,056,595). With other income

added and provision made for taxation, etc., available profit is £3,754,130 (£3,388,970). Dividends absorb £569,038. The board also resolved that the dividend be paid on both the 7 per cent cumulative first preference stock and the 4½ per cent redeemable cumulative preference stock, the dividends at the authorised rates for the half year ending November 30, 1953.

Forthcoming Meetings

November 14 (*Sat.*).—Stephenson Locomotive Society, at the Geographical Society's Rooms, Deansgate, Manchester, at 6.15 p.m. A talk by the President, Mr. J. N. Maskelyne on "Some reminiscences."

November 17 (*Tue.*).—Stephenson Locomotive Society, Midland Area, in the B.T.H. Social Rooms, Holyhead Road, Coventry, at 7.30 p.m. Paper on "The 4-4-0s of the G.W.R.," by Mr. N. J. Allcock.

November 17 (*Tue.*).—Institute of Transport, Humberside Section, at the Chamber of Commerce & Shipping, Hull, at 7.30 p.m. Paper on "Suburban railway operation," by Mr. C. F. Klapper.

November 18 (*Wed.*).—Institution of Railway Signal Engineers, at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2, at 6 p.m. Discussion on "Economic aspect of cables for railway signalling." Introduced by Mr. N. W. Russell.

November 18 (*Wed.*).—British Railways, Southern Region, Lecture & Debating Society, at the Chapter House, St. Thomas Street, London Bridge, S.E.1, at 5.45 p.m. Paper on "Bananas—from plantation to consumer," illustrated by lantern slides, by Mr. E. R. Gooding.

November 18 (*Wed.*).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, at 5.30 p.m. Paper on "Development in locomotive testing," by Mr. S. O. Ell.

November 19 (*Thu.*).—Institute of Welding, North London Branch, at the Polytechnic, Regent Street, London, W.1, at 7 for 7.30 p.m. Paper on "Productivity in the Fabrication of structural steelwork," by Mr. D. C. Dixon, Director of the Cleveland Bridge & Engineering Co. Ltd.

November 19 (*Thu.*).—Cambridge University Railway Club, at Corpus Christi College. Photographic competition.

November 19 (*Thu.*).—Institute of Transport, Northern Ireland Section, at 21, Linenhall Street, Belfast, at 6 p.m. Paper on "Traffic costing," by Mr. R. L. Charlesworth.

November 19 (*Thu.*).—Institute of Transport, South Wales & Monmouthshire Section, at the South Wales Institute of Engineers, Park Place, Cardiff, at 7.15 p.m. Paper on "Operating railway branch lines in South Wales," by Mr. L. A. Morgan, Assistant Operating Superintendent, British Railways, Western Region.

November 20 (*Fri.*).—Institute of Transport, East Midlands Section, at the Victoria Station Hotel, Nottingham. Annual dinner and visit of Mr. R. W. Birch, a Vice-President.

November 21 (*Sat.*).—Stephenson Locomotive Society, Leeds Centre, at the Y.M.C.A., Albion Place, at 2.30 p.m. Paper on "A new railway map," by Dr. A. Barnett.

November 21 (*Sat.*).—Stephenson Locomotive Society, North Eastern Centre, at 18, Lovaine Place, Newcastle-on Tyne, at 6.30 p.m. Paper on "British Railways' standard locomotives," by Mr. Alan Wright.

November 24 (*Tue.*).—Institution of Civil Engineers, at Great George Street, Westminster, S.W.1, at 5.30 p.m. Paper on "Bridge investigation—Ceylon Government Railways," by Mr. Conrad Gribble.

November 24 (*Tue.*).—Institute of Fuel, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W., at 5.30 p.m., tea at 5 p.m. paper on "Conservation of the Nation's fuel and power," by Dr. F. M. H. Taylor.

November 25 (*Wed.*).—Permanent Way Institution, London Section, at the British Transport Commission Headquarters, 222, Marylebone Road, London, N.W.1, at 6.45 p.m. Joint meeting with Guildford Section. Discussion between Chief Permanent Way Inspectors.

November 25 (*Wed.*).—Stephenson Locomotive Society, Midland Area, at 71, Edmund Street, Birmingham, at 7.15 p.m. Paper on "Locomotive power," by Mr. R. Howard.

November 26 (*Thu.*).—British Railways, Western Region, London Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, W.2, at 5.45 p.m. Debate with Oxford University Railway Society.

November 26 (*Thu.*).—Cambridge University Railway Club, at Corpus Christi College. Paper on "Modern methods of track construction on military and civil railways," by Captain P. M. Olver.

November 27 (*Fri.*).—Railway Club annual dinner at the Danish Club, 62, Knightsbridge, London, S.W.1, at 7 p.m.

Railway Stock Market

Although a disposition to await international political developments made for caution and a little profit taking in stock markets earlier this week, values both in the industrial and gilt-edged sections again recorded substantial gains on balance. The success of the United Steel issue helped sentiment and had a stimulating influence on gilt-edged because the fact that holders of British Funds could exchange into United Steel shares at prices previously announced had had a restraining influence on this section of markets. Industrials were helped by fresh dividend increases, though the unchanged Tube Investments dividend came as a reminder that it cannot be expected that all market estimates of higher dividends will be borne out. Moreover, it is realised that some shares have risen in recent weeks to levels which cannot be justified unless increased dividends are in prospect. A factor which has helped markets is the growing assumption that recent fears of a setback in U.S.A. industrial activity were much exaggerated.

There was only moderate interest in foreign rails, but United of Havana stocks were wanted on break-up estimates calculated on the expected take-over payout for the railway. The 4 per cent "A" and "B" stocks were both 95, while the second income stock changed hands around 38½ and the consolidated stock around 5¾.

There has been some selling of Antofagasta preference stock, which receded to 42½, while the ordinary stock was 8¾ and the 5 per cent (Bolivia) debentures transferred at 69.

Paraguay Central 6 per cent debentures transferred around 23 and the "D" income debentures marked 3½. There was a special dealing at 50 in Costa Rica 6½ per cent second debentures and business at 39½ in Guayaquil & Quito first bonds.

Manila Railway issues continued to attract buyers on recognition that prices of the company's securities will be worth considerably more than current levels when there is a settlement in respect of the big holding of Manila Railroad bonds. The "A" debentures were 86 and the "B" debentures 75, while the ordinary shares have changed hands up to 4s. 3d. and the preference shares were 9s. 3d.

Dorada ordinary stock change hands around 57, Taltal shares at 14s. 9d., while Nitrate Rails shares were 21s. 3d. San Paulo ordinary units were 5s. 3d. Mexican Central "A" debentures have been steady at 81.

Canadian Pacifics have been firmer at $43⅜, while the 4 per cent preference stock was £69¼ and the 4 per cent debentures £85¼. White Pass common shares at $27 have lost part of an earlier rally; the convertible debentures were £97.

Road transport shares were firm again and inclined to move in favour of holders with West Riding at 26s. "ex" the share bonus, Southdown 31s. 6d. xd and Lancashire Transport 52s. 6d. Maidstone & District marked 23s. 6d., Provincial Traction 4s. shares 7s. 4½d. and Ribble Motor 6½ per cent preference 24s. B.E.T. 5s. units were active at the slightly higher level of 35s. 6d. on market dividend estimates, which now range up to 50 per cent.

With the completion of the United Steel issue, which has provided a big success to start off the other big steel issues, engineering and kindred shares became rather more active. General expectations are that if markets are buoyant on Monday, United Steel shares are likely to open at a premium of around 1s. It is now believed that the next steel issue will not be made until early in the new year.

Vickers have been more active around 50s. 3d. while elsewhere, Cammell Laird 5s. shares moved up to 13s. 3d. on the company's plan of decentralisation and modernising its articles. The City view is that the latter would facilitate a special distribution to shareholders of the English Steel compensation money received following nationalisation, if for any reason Cammell Laird decided not to repurchase its former interest in English Steel. T. W. Ward were active and again higher at 82s. 9d., Ruston & Hornsby were 42s. 3d. and Babcock and Wilcox 48s. "ex" the bonus. Guest Keen eased to 52s. 3d. British Aluminium held their rally to 39s. 3d.

Beyer Peacock changed hands around 31s. 9d. and Charles Roberts 5s. shares around 18s. 3d., while Hurst Nelson strengthened to 42s. 6d. on Glasgow buying.

North British Locomotive shares were 13s. 10½d. and Birmingham Carriage 31s. 4½d. Vulcan Foundry strengthened to 24s. 3d., Gloucester Wagon 10s. shares were 16s. and Wagon Repairs 5s. shares 15s. 4½d.